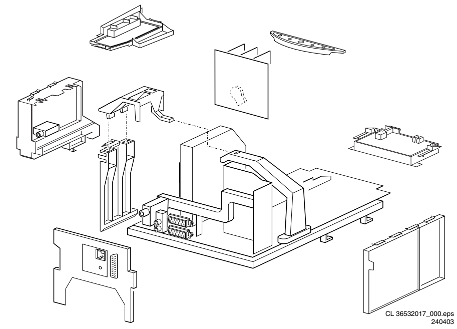
Colour Television

28PW9528/12 Chassis
EM5.1E
AA

Service
Service
Service



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ServiceManual

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PHILIPS

1. Technical Specifications, Connections and Chassis Overview

1.1 Technical Specifications

1.1.1 Vision

Display type	:	CRT, Real Flat WS
Screen size	:	28” (70 cm)
	:	32" (82 cm)
	:	36” (92 cm)
Tuning system	:	PLL
Colour systems	:	PAL B/G, D/K, I
	:	SECAM B/G, D/K, L/L’
	:	NTSC playback only
Channel selections	:	100 presets
	:	UVSH
Aerial input	:	75 ohm, IEC-type

1.1.2 Sound

Sound systems	:	FM-mono
	:	AM-mono
	:	FM-stereo B/G, Czech
	:	NICAM B/G, D/K, I, L
Maximum power	:	4 x 15 W rms (int.)

1.1.3 Miscellaneous

Mains voltage	:	220 - 240 V
Mains frequency	:	50 / 60 Hz
Ambient temperature	:	+5 to +45 deg. C
Maximum humidity	:	90 % R.H.
Power consumption	:	?
- Normal operation	:	≈ 130 W
- Standby	:	< 1 W

1.2 Connections

1.2.1 Front View / Side Connections

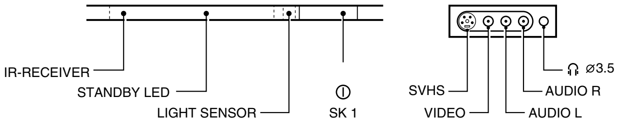

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Figure 1-1 Front View and Side I/O

Hosiden: SVHS - In

1	- Y	Ground	⏚
2	- C	Ground	⏚
3	- Y	1 Vpp / 75 ohm	→⊙
4	- C	0.3 Vpp / 75 ohm	→⊙

Cinch: In

1	- CVBS	1 Vpp / 75 ohm	→⊙◎
2	- Audio - L	0.5 Vrms / 10 kohm	→⊙◎
3	- Audio - R	0.5 Vrms / 10 kohm	→⊙◎

Mini Jack: Headphone - Out

- Headphone	32 - 600 ohm / 10 mW	◎ 3.5mm

1.2.2 Rear Connections

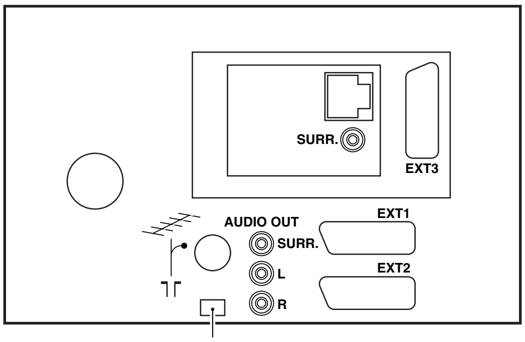

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Figure 1-2 Rear View

Aerial - In

- IEC-type	Coax, 75 ohm	⊤⊤

Cinch: Audio - Out

- Audio - R	0.5 Vrms / 1 kohm	⊙→◎
- Audio - L	0.5 Vrms / 1 kohm	⊙→◎

External 1: RGB/YUV and CVBS - In/Out

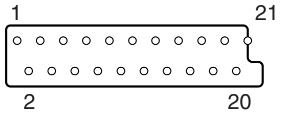

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Figure 1-3 SCART connector

1 - Audio - R	0.5 Vrms / 1 kohm		⊙→
2 - Audio - R	0.5 Vrms / 10 kohm		→⊙
3 - Audio - L	0.5 Vrms / 1 kohm		⊙→
4 - Audio	Ground		⏚
5 - Audio	Ground		⏚
6 - Audio - L	0.5 Vrms / 10 kohm		→⊙
7 - Blue / U	0.7 Vpp / 75 ohm		→⊙
8 - CVBS-status	0 - 1.3 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3		
9 - Video	Ground		⏚
10 - n.c.			
11 - Green / Y	0.7 Vpp / 75 ohm		→⊙
12 - n.c.			
13 - Video	Ground		⏚
14 - Video	Ground		⏚
15 - Red / V	0.7 Vpp / 75 ohm		→⊙
16 - Status / FBL	0 - 0.4 V: INT 1 - 3 V: EXT / 75 ohm		→⊙
17 - Video	Ground		⏚
18 - Video	Ground		⏚
19 - CVBS-out	1 Vpp / 75 ohm		⊙→
20 - CVBS-in	1 Vpp / 75 ohm		→⊙
21 - Shielding	Ground		⏚

External 2: CVBS and SVHS - In (for VCR)

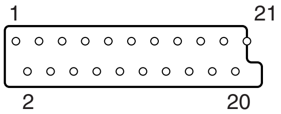

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Figure 1-4 SCART connector

1	- Audio - R	0.5 Vrms / 1 kohm	⊖→
2	- Audio - R	0.5 Vrms / 10 kohm	⊕
3	- Audio - L	0.5 Vrms / 1 kohm	⊖→
4	- Audio	Ground	⏚
5	- Audio	Ground	⏚
6	- Audio - L	0.5 Vrms / 10 kohm	⊕
7	- C-out	0.7 Vpp / 75 ohm	⊖→
8	- CVBS-status	0 - 1.3 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	
9	- Video	Ground	⏚
10	- Easylink	(P50)	⊕
11	- n.c.		
12	- n.c.		
13	- Video	Ground	⏚
14	- Video	Ground	⏚
15	- C-in	0.7 Vpp / 75 ohm	⊕
16	- n.c.		
17	- Video	Ground	⏚
18	- Video	Ground	⏚
19	- CVBS-out	1 Vpp / 75 ohm	⊖→
20	- Y / CVBS-in	1 Vpp / 75 ohm	⊕
21	- Shielding	Ground	⏚

External 3: RGB and CVBS - In

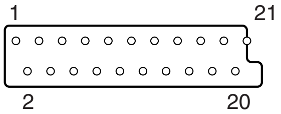

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Figure 1-5 SCART connector

1	- n.c.		
2	- Audio - R	0.5 Vrms / 10 kohm	⊕
3	- n.c.		
4	- Audio	Ground	⏚
5	- Audio	Ground	⏚
6	- Audio - L	0.5 Vrms / 10 kohm	⊕
7	- Blue-in	0.7 Vpp / 75 ohm	⊕
8	- CVBS-status	0 - 1.3 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	
9	- Video	Ground	⏚
10	- n.c.		
11	- Green-in	0.7 Vpp / 75 ohm	⊕
12	- n.c.		
13	- Video	Ground	⏚
14	- Video	Ground	⏚
15	- Red-in	0.7 Vpp / 75 ohm	⊕
16	- Status / FBL	0 - 0.4 V: INT 1 - 3 V: EXT / 75 ohm	⊕
17	- Video	Ground	⏚
18	- Video	Ground	⏚
19	- n.c.		
20	- CVBS-in	1 Vpp / 75 ohm	⊕
21	- Shielding	Ground	⏚

RJ45: Wireless Surround Transmitter - Out

1	- SDA2_TM	Signal	⊕⊖→
2	- SCL2_TM	Signal	⊖→
3	- GND	Ground	⏚
4	- I2C_MUTE	Signal	⊖→
5	- 15V	Supply	⊖→
6	- AUDIO_ SL_S_TM	Signal	⊖→
7	- GND_AUD	Ground	⏚
8	- PILOT_MUTE	Signal	⊖→

Jack: Surround - Out

1	- Audio	0.2 - 2 Vrms / 10 kohm	◎ 3.5mm ⊖→

1.3 Chassis Overview

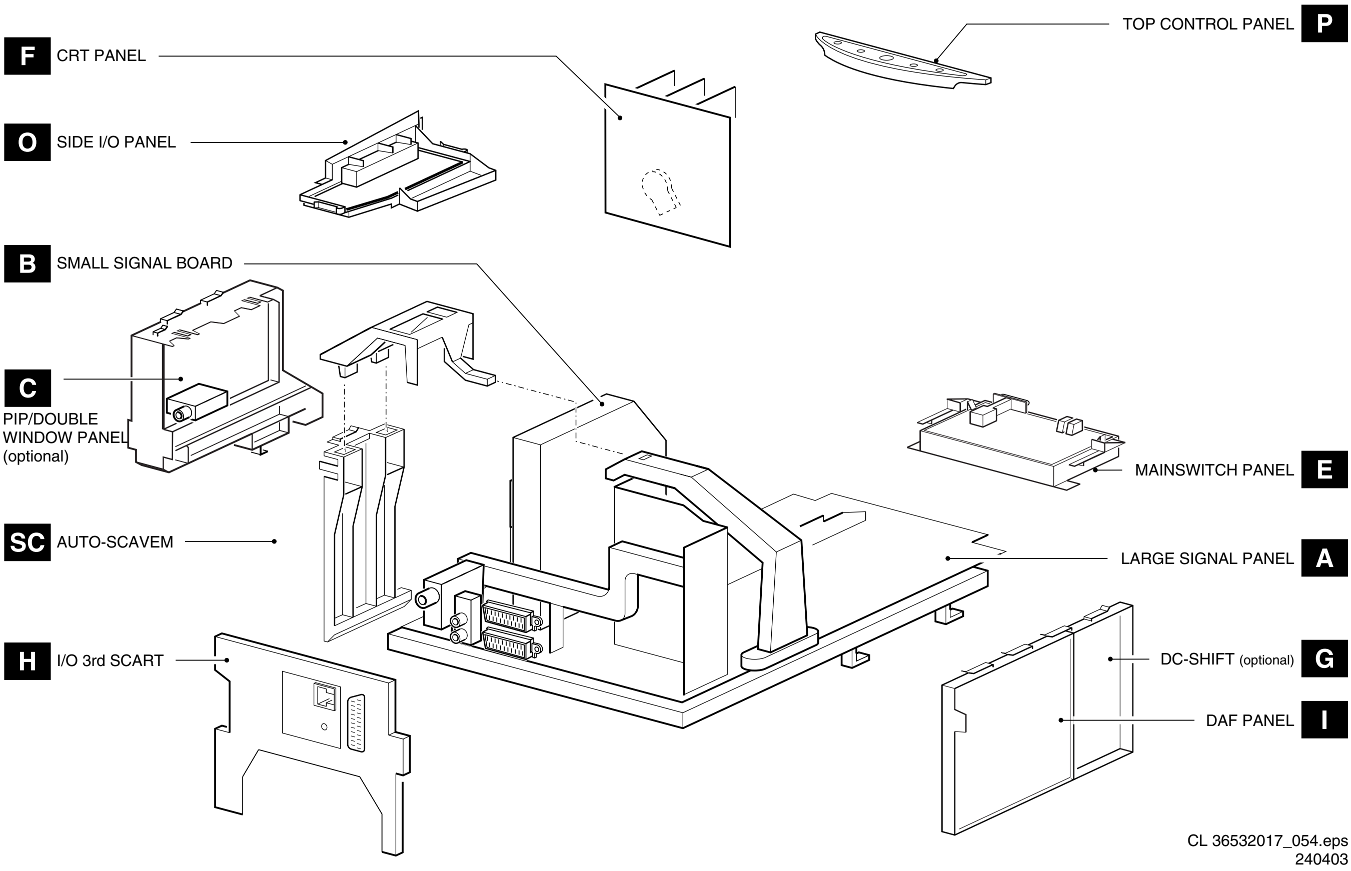
F CRT PANEL
O SIDE I/O PANEL
B SMALL SIGNAL BOARD
C PIP/DOUBLE WINDOW PANEL (optional)
SC AUTO-SCAVEM
H I/O 3rd SCART
TOP CONTROL PANEL P
MAINSWITCH PANEL E
LARGE SIGNAL PANEL A
DC-SHIFT (optional) G
DAF PANEL I
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Figure 1-6 PWB location

2. Safety Instructions, Warnings, and Notes

2.1 Safety Instructions

Safety regulations require that **during** a repair:

- Connect the Receiver box to the Mains via an isolation transformer.
- When you use the Receiver box in combination with a plasma monitor, do not operate the monitor without the front glass plate. One function of this glass plate is to absorb IR radiation. Without this glass plate, the level of radiation could damage your eyes.
- Safety components, indicated by the symbol ⚠, must be replaced with original components.

Safety regulations require that **after** a repair, you must return the set in its original condition. Pay particular attention to the following points:

- Route the wire trees in their original positions and fix them in place with the mounted cable clamps.
- Check the insulation of the Mains cord for external damage.
- Check the electrical DC resistance between the Mains plug and the secondary side (only for sets which have a Mains isolated power supply):
  - Unplug the Mains cord and connect a wire between the two pins of the Mains plug;
  - Set the Mains switch to the "on" position (keep the Mains cord unplugged!).
  - Measure the resistance value between the pins of the Mains plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 Mohm and 12 Mohm.
  - Set the Mains switch to the "off" position, and remove the wire between the two pins of the Mains plug.
- Check the cabinet for defects, to prevent the customer from touching any inner parts of the television set.

2.2 Warnings

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD symbol ⚠). Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same electrical potential as the set by a wristband with resistance. Keep components and tools at this same potential. Available ESD protection equipment:
  - Complete ESD3 kit (small tablemat, wristband, connection box, extension cable and earth cable): 4822 310 10671.
  - Wristband tester: 4822 344 13999.
- Be careful while taking measurements in the live voltage section.
- Never replace modules, or other components, with the television set "'ON."
- Use plastic tools, instead of metal tools, when performing alignments on the television set. This will help prevent short circuits and reduce the danger of a circuit becoming unstable.

2.3 Notes

2.3.1 General

- Measure the direct voltages and oscillograms with regard to the chassis ground (symbol ⏚), or hot ground (symbol ⏚).
- The direct voltages and oscillograms shown in the diagrams are indicative. Measure them in the Service Default Mode (see chapter 5) with a colour bar signal and stereo sound (L: 3 kHz, R: 1 kHz unless stated otherwise) and picture carrier at 61.25 MHz (NTSC).
- Where necessary, measure the oscillograms and direct voltages with (symbol ⥾) and without (symbol ⥿) aerial signal. Measure the voltages in the power supply section both in normal operation (symbol ⏽) and in standby (symbol ⏻). These values are indicated by means of the appropriate symbols.
- The semiconductors indicated in the circuit diagram and in the parts lists, are interchangeable position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

2.3.2 Schematic Notes

- All resistor values are in ohms and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kohm).
- Resistor values with no multiplier may be indicated with either an 'E' or an 'R' (e.g. 220E or 220R indicates 220 ohm).
- All Capacitor values are expressed in Micro-Farads ($\mu = x10^{-6}$), Nano-Farads ($n = x10^{-9}$), or Pico-Farads ($p = x10^{-12}$).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An 'asterisk' (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Electrical Replacement Parts List. Therefore, always check this list when there is any doubt.

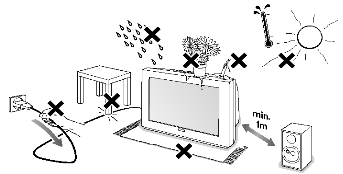
2.3.3 Practical Service Precautions

- **It makes sense to avoid exposure to electrical shock.** While some sources are expected to have a possible dangerous impact, others of quite high potential are of limited current and are sometimes held in less regard.
- **Always respect voltages**. While some may not be dangerous in themselves, they can cause unexpected reactions - reactions that are best avoided. Before reaching into a powered TV set, it is best to test the high voltage insulation. It is easy to do, and is a good service precaution.
- **Before powering up the TV set with the rear cover off** (or on a test fixture), attach a clip lead to the CRT DAG ground and to a screwdriver blade that has a well insulated handle. After the TV is powered on and high voltage has developed, probe the anode lead with the blade, starting at the case of the High Voltage Transformer (flyback - IFT). Move the blade to within two inches of the connector of the CRT. **If there is an arc, you found it the easy way, without getting a shock!** If there is an arc to the screwdriver blade, replace the part that is causing the problem: the High Voltage Transformer or the lead (if it is removable).

3. Directions for Use

Preparation

❶ Place the TV on a solid surface.
! 28PW9528: 41 kg; 32PW9528: 59 kg; 36PW9528: 79 kg !

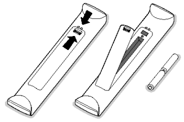


For ventilation, leave at least 5 cm free all around the TV. Do not place the TV on a carpet. To prevent any unsafe situations, do not place any objects on top of the TV. Avoid heat, direct sunlight and exposure to rain or water.

❷ Insert the aerial plug firmly into the aerial socket ⫪ at the back of the TV. For best picture quality use the suppressor-aerial cable supplied.

❸ Insert the mains plug of the TV in the wall socket having a mains voltage of 220V-240V.

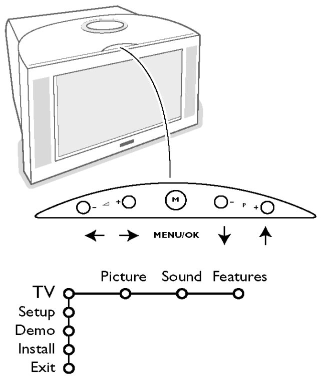
❹ **Remote control**: Insert the 2 batteries supplied (Type R6-1,5V).



The batteries supplied do not contain the heavy metals mercury and cadmium. Please check on how to dispose of exhausted batteries according to local regulations.

❺ **Switch the TV on** : Press the power switch ⏻ on the front of your TV.
An indicator on the front of the TV lights up and the screen comes on.
If the TV is in standby mode (red indicator), press the **-P+** keys on the remote control.

Keys on top of the TV



Should your remote be lost or broken you can still change some of the basic settings with the keys on top of your TV.

Press:
- the ◿ - or + key to adjust the volume;
- the **-P+** keys to select the TV channels or sources.

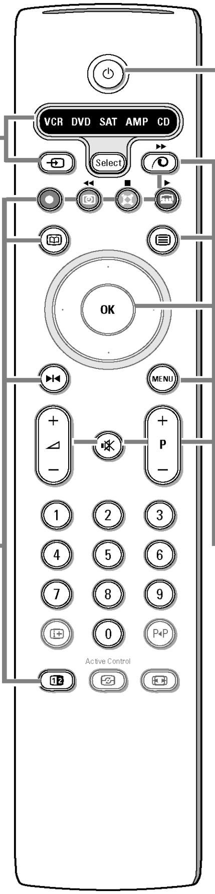
The **M** key can be used to summon the main menu without the remote control.

Use:
- the ◿ - and + keys and the **P-** and **P+** keys to select menu items in the directions as shown;
- the **M** key to confirm your selection.

Note:
*When activated via the **M** key on top of the TV, only **Exit** lets you dismiss the menu.*
*Navigate to **Exit** and press the **M** key.*

Use of the remote control RC4301

Note: For most keys pressing a key once will activate the function. Pressing a second time will de-activate it.
When a key enables multiple options, a small list will be shown. Press repeatedly to select the next item in the list.
*The list will be removed automatically after 4 seconds or press **OK** to remove immediately.*



VCR DVD SAT AMP CD
Audio- and Video equipment keys, (p. 22)

⊕ **Select peripherals** (p. 21)

● ◀◀ ■ ▶ ▶▶
Audio- and Video equipment keys (p. 22)

● **Instant record**
See Record with your recorder with EasyLink, p. 22.

Time display
The time is displayed on the screen.

Surround mode
Press this key repeatedly to select another available surround mode.

Cinema Go
See separate Cinema Link booklet supplied.

NEXTVIEW on/off p. 16
Press 1|2 to show NEXTVIEW/ Teletext Guide on the right half of the screen.

▶◀ **Freeze/Replay/Photo finish**
To freeze the picture.
See also p. 9.

⏻ **Standby**
Press to switch the TV on or off. When switched off, a red indicator on the TV lights up.

Pixel Plus demo on/off
In the right part Pixel Plus and Digital Natural Motion are switched on.

▤ **Teletext** on/off see p. 18
Press the 1|2 key to show teletext on the right half of the screen.

OK Press this key
- to activate your choice, when in the menus.
- to display the programme list.

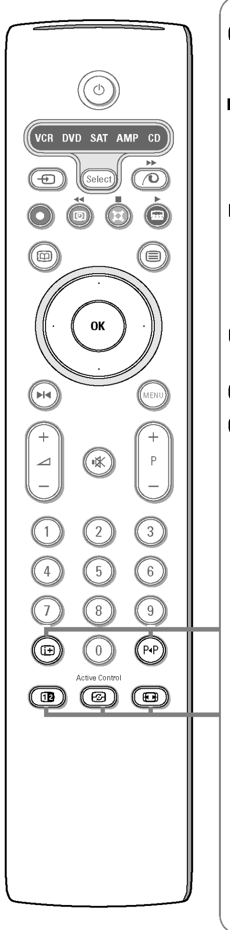
MENU Main menu on/off see p. 5

◿ To adjust the volume.

🔇 Interrupt the sound or restore it.

P **Programme selection**
To browse through the TV channels and sources stored in the favourite list.

0/9 Digit keys
To select a TV channel.
For a two digit programme number, enter the second digit before the dash disappears. To switch immediately to a selected one digit TV channel, keep the digit key pressed a bit longer.


VCR DVD SAT AMP CD
Select
OK
MENU
P
1
2
3
4
5
6
7
8
9
0
P‹P
Active Control

On Screen information

Press to display information about the selected TV channel and programme.

Menu/Remote control info

When a menu is on screen, press to display info on the selected menu item. For information on the remote control functions, while the menu info is displayed, press any key on the remote control. The normal function of the key is not executed.

P‹P Smart surf / NEXTVIEW themes

With this key you can easily switch between 2 up to 9 different TV channels or sources or quickly select TV programmes if NEXTVIEW with defined themes is broadcast. See General, Smart surf, p. 9.
Press the **OK** key or wait for the time out to dismiss the Smart surf display.

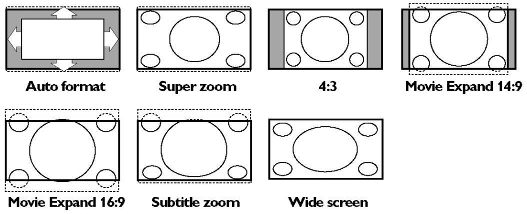
Dual screen / PIP / Multipip

See p. 9 and p. 14.

Active control see p. 11.

Picture format

Press this key repeatedly or press the cursor up/down to select another picture format: Auto format, Super zoom, 4:3, Movie Expand 14:9, Movie Expand 16:9, Subtitle zoom or Wide screen.

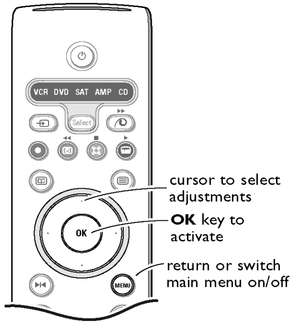

Auto format Super zoom 4:3 Movie Expand 14:9
Movie Expand 16:9 Subtitle zoom Wide screen

Auto format makes the picture fill the screen as much as possible.
In case of subtitles in the bottom black bar, Auto format makes the subtitles visible. If subtitles are only partly visible, press cursor up.
In case of a broadcaster logo in the corner of the top black bar, the logo disappears from the screen.

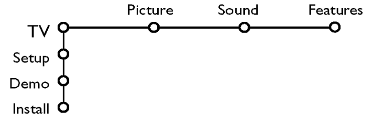
Super zoom removes the black bars on the sides of 4:3 programs with minimal distortion.

When in Movie Expand 14:9, 16:9, Super zoom or Subtitle zoom picture format, you can make subtitles visible with the cursor up/down.

To use the menus


VCR DVD SAT AMP CD
Select
OK
MENU
cursor to select adjustments
OK key to activate
return or switch main menu on/off

1. Press the **MENU** key on the remote control to summon the main menu. At any moment you can exit the menu by pressing the MENU key again.
Note: If you have connected equipment with Cinema Link, more menu items are present.

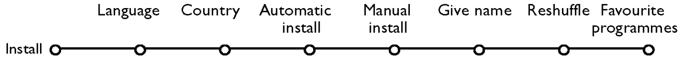

TV
Setup
Demo
Install
Picture
Sound
Features

2. Use the cursor in the up/down direction to select the **TV**, **Setup**, **Demo** or **Install** menu.
Use the cursor left/right to select **Picture**, **Sound** or **Features**.
Note: Sometimes not all the menu items are visible on the screen (indicated by a cluster of blue balls). Use the cursor down or right to reveal all items.
3. Use the cursor in the left/right direction to select the menu item.
4. Use the cursor up/down again to select the control you want to select or to adjust.

Note: Items temporary not available or not relevant are displayed in a light grey colour and cannot be selected.

Installation

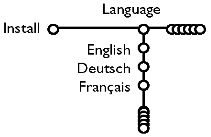
The installation menu contains the following items:

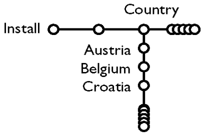

Install
Language
Country
Automatic install
Manual install
Give name
Reshuffle
Favourite programmes

EasyLink

If your video recorder has an EasyLink function, during installation, the language, country and available channels are automatically transmitted to the video recorder.

Select the menu language and country


Language
Install
English
Deutsch
Français

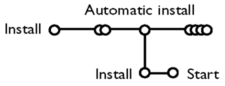

Country
Install
Austria
Belgium
Croatia

1. Press the **MENU** key on the remote control.
2. Use the cursor down to select **Install**.
3. Use the cursor right to select **Language**.
Follow the instructions on screen.
4. Use the cursor up/down to select your preferred language and press the **OK** key to confirm your selection.
5. Use the cursor right to select **Country**.
6. Select the country where you are now located and press the **OK** key.
Select **Other** when none of the countries applies.
7. Proceed with the Install menu.

Store TV channels

After language and country are set correctly, you can now search for and store the TV channels in two different ways: using Automatic Installation or Manual Installation (tuning-in channel by channel).
Select your choice with the cursor right.

Automatic installation



① Select **Automatic install** in the Install menu.
Note: All channels must be unlocked in order to autoprogram. If requested, enter your code to unlock all channels. (See TV, Features menu, Childlock, p. 13.)

② Press the cursor down.
The autoprogramming option label **Start** appears.

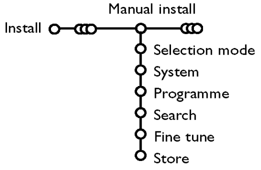
③ Press the cursor right.

④ The message **Searching** appears and the progress of autoprogramming is displayed.

If a cable system or a TV channel which broadcasts ACI (Automatic Channel Installation) is detected, a programme list appears. Without ACI broadcast, the channels are numbered according your language and country selection. You can use Reshuffle to renumber them. See p. 7.

It is possible that the cable company or the TV channel displays a broadcast selection menu. Layout and items are defined by the cable company or the TV channel. Make your choice with the cursor and press the ***OK*** *key.*

Manual installation



Searching for and storing TV channels is done channel by channel. You must go through every step of the Manual Installation menu.

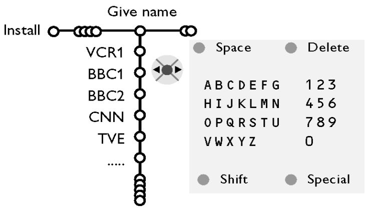
① Select **Manual install** in the Install menu.

② Press the cursor down.
Follow the instructions on screen.

Note: Search or direct selection of a TV channel.
If you know the frequency, the C- or S-channel number, enter the 3 or 2 digits of the frequency or the channel number directly with the digit keys 0 to 9 (e.g. 048). Press the cursor down to proceed.

Repeat to search for another TV channel.

Give name



It is possible to change the name stored in the memory or to assign a name to a TV channel for which a name has not yet been entered. A name with up to 5 letters or numbers can be given to the programme numbers 0 to 99.

① Select **Give Name** in the Install menu and press the cursor down.

② Select the programme number.
Note: keep the cursor up/down pressed to scroll through the programme list quickly.

③ Press the cursor right.
A keyboard appears on the screen.
Press the cursor right to enter the keyboard.
Press the cursor up/down, left/right to select the first character and press **OK**. Repeat for every character you want to enter.
Select **Space** to enter a space; **Delete** to erase the highlighted character in the name entered; **Shift** to display upper- or lowercase characters on the keyboard; **Special** to display special characters on the keyboard. Press **OK** to confirm.

④ Press the cursor left repeatedly when you have finished the name giving.

⑤ Select another programme number and repeat steps ③ to ④.

Reshuffle the programme list

You can change the order of the stored TV channels.

① Select **Reshuffle** in the Installation menu.

② Follow the instructions on screen.

Select Favourite TV channels

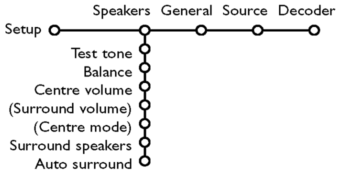
① Select **Favourite programmes** in the Install menu.

② Select your programme number with the cursor up/down.

③ Select **Yes** or **No** with the cursor right.

④ Repeat ② and ③ for every TV channel or external you want to make a favourite or a non-favourite TV channel or external.

TV Setup



The Setup menu contains items that control the settings of the TV's functions, features, services and peripherals you may have connected.

The **Speakers** menu reflects the speaker-related controls.
The **General** menu allows you to change settings that will typically be accessed only occasionally.
The **Source** menu allows you to select a source.
The **Decoder** menu allows you to define one or more programme numbers as decoder programme numbers.

Speakers

Your TV is equipped with integrated front left, right and centre loudspeakers, capable of reproducing Stereo, Dolby 3 stereo and 3D Surround modes.
For full Dolby Pro Logic Surround sound you should use two amplified rear surround speakers connected to the back of the TV.
See Extra loudspeakers/Amplifier, p. 21.

Depending on the output and Surround mode (see Main menu, TV, Sound, Sound modes, p. 12) selected, some menu items may be greyed out and are not selectable.

Test tone controls

The menu item Test tone enables you to balance the volume levels of the speakers.

❶ Select **Test tone** and press the cursor right.

❷ Once turned on, the Test Tone will circulate through the left, centre, right speakers and both rear surround speakers (if present).

❸ Press the cursor up/down to select the desired speaker for individual volume level adjustment.

❹ Press the cursor left/right to adjust the volume level.

Centre Mode

To enhance the sound reproduction of your TV you may connect two extra front loudspeakers via an external amplifier. See Connect extra loudspeakers/Amplifier, p. 21.
If no External Front Speakers are connected, do not change the predefined factory settings which is **Centre mode Off**. Only if an external amplifier with Front Speakers is connected, select **Centre mode On**.
In this setting, the centre channel in surround mode is directed to all three internal TV speakers (left, centre and right).

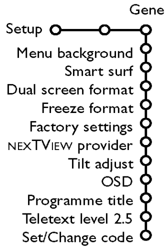
Surround Speakers

See Connect Peripheral Equipment, Connect extra loudspeakers/amplifier, p. 21.
If no Surround Speakers are connected do not change the predefined factory settings which is **Off**. If Surround Speakers are connected select **On**.
(Dolby Pro Logic and Hall are not available if Off is selected.)

Auto Surround

Sometimes the broadcaster transmits special signals for Surround Sound encoded programmes.
The TV automatically switches to the best surround sound mode when **Auto Surround** is switched **On**.
However it is possible to overwrite this setting.

General



This menu allows you to change various settings that are presumably adjusted less frequently than most other settings.

Press the i+ key on the remote control to get information about the selected menu item.

Smart surf

❶ Select **Smart surf**.

❷ With the cursor left/right, select
- **2 programmes** if you want the P◂P key to toggle between the current and the previously selected channel,
- **9 programmes** if you want the P◂P key to summon a list of up to 9 channels which can be selected,
- **Themes** if you want the P◂P key to quickly select TV programmes if NEXTVIEW with defined themes is broadcast.

To add/remove a channel or source:

Tune to the channel or source you wish to add or remove. Press the P◂P key and press the cursor right to add or remove.
Note: If there are already 9 channels/sources in the list, the one at the bottom of the list will be removed.

Dual screen format

This menu allows you to select the preferred format which can then be displayed toggling the 12 key on and off.
See Dual screen/PIP/ Multipip, p. 14.

Select **Dual screen**, **PIP**, **PIP 3** or **PIP 12** with the cursor down.
When Dual screen mode is activated with the remote control 12 key, and when:
- **Dual screen** is selected, the TV splits the screen into two equally sized screens.
- **PIP** is selected, the TV shows a full screen of video with a pip window of video on top if it;
- **PIP3** or **12** is selected, the TV will display 3 or 12 pip screens.

Freeze format

Freeze format allows you to select among three options: Freeze, Replay or Photo finish, to be activated when you press the ▶◀ key on the remote control. See p. 3.
Note: Continuing to hold the ▶◀ key down will also cycle the TV through the various formats. Changing the format this way does not store the selected format.

Factory settings

This resets the picture and sound settings to their predefined factory values, but maintains the channel installation settings.

NEXTVIEW provider

Select a TV broadcaster that provides NEXTVIEW data. How to make use of NEXTVIEW, see p. 15.

OSD (On Screen Display)

See Use of the remote control, p. 4, i+ On screen information.

❶ Select **OSD**.

❷ Select **Normal** to activate the continuous display of the programme number. Also TV channel and programme information are extended. **Minimum** will display reduced channel information.
Note: When subtitles is switched on, see Features, p.13, continuous display of the programme number is not possible.

Teletext level 2.5

Some broadcasters offer the opportunity to see more colours, other background colours and nicer pictures in the teletext pages.

❶ Select **Teletext level 2.5**.

❷ Press the cursor right to select **Teletext level 2.5 On** to take advantage of this feature.

❸ Press the cursor right again to select **Teletext level 2.5 Off** if you like the more neutral teletext layout.
The selection made is valid for all channels which broadcast teletext level 2.5.
Note: It may take a few seconds before teletext broadcast switches over to Teletext level 2.5.

Set/Change code

The Child lock feature (see TV, Features, p. 13) allows you to lock channels to prevent others from watching certain programmes. To watch locked channels, a 4-digit code must be entered. The Set/Change code menu item allows you to create or change a Personal Identification Number (PIN).

❶ Select **Set/Change code**.

❷ If no code exists yet, the menu item is set to Set code.

If a code has previously been entered, the menu item is set to **Change code**. Follow the instructions on screen.

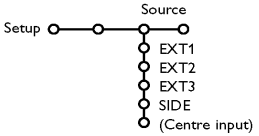
Important: You have forgotten your code !

❶ Select **Change code** in the General menu and press **OK**.

❷ Press the cursor right and enter the overriding code 8-8-8-8.

❸ Press the cursor again and enter a new personal 4-digit code. The previous code is erased and the new code is stored.

Source



This menu allows you to indicate the peripheral you connected to one of the external inputs.

❶ Press the cursor right to enter the list of types of peripherals attached to the selected input.

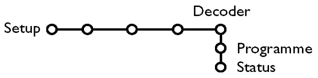
❷ Select the peripheral device with the cursor up/down.

Once you have selected the source type, e.g. DVD, this source will automatically be selected when your remote control is in DVD mode, see p. 3, and when you press the ⇥ key on the remote control.

Centre input

When you have connected a Philips Cinema Link surround receiver to the TV (See separate Cinema Link instruction manual supplied) and you have selected one of the external inputs as centre input, the loudspeakers of the TV will act as centre speaker, making a separate centre speaker unnecessary.

Decoder



If a decoder or a descrambler is connected, see p. 20, you can define one or more programme numbers as decoder programme numbers.

❶ Select **Decoder** with the cursor right.

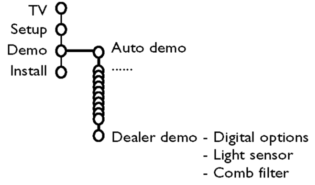
❷ Select **Programme**.

❸ Select the programme number under which you have stored the programme coming from your decoder.

❹ Select **Status**.
- Select the input used to connect your decoder: **None**, **EXT1** or **EXT2**.
- Select **None** if you do not want the selected programme number being activated as a decoder programme number.

*Note: Select **EXT2** when the decoder is connected to your EasyLink video recorder.*

Demo



The Demo menu allows to demonstrate the TV features separately or in a continuous loop.

If **Auto demo** has been selected the demo will automatically present the features sequentially in a loop. Press one of the cursor keys to stop the Auto demo.
If one of the features has been selected, this particular feature demo will run only once, and the Demo menu will reappear.

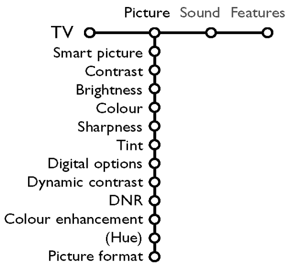
Note: The Dealer demo is not part of the automatic sequence and can only be activated separately.

TV menu

Press the **MENU** key on the remote control to summon the main menu.

Press the ⓘ key on the remote control to get information about the selected menu item.

Picture



❶ Press the cursor right to select **Picture**.

❷ Select the menu items in the Picture menu with the cursor up/down.

❸ Adjust the settings with the cursor left/right or enter the list of submenu items with the cursor right. Select a submenu item with the cursor up/down.
Note: To remove the menu background before adjusting the picture settings, see Select TV setup, General, p. 9.

Smart picture

Select **Smart picture** to display a list of predefined picture settings, each corresponding with specific factory settings. Personal refers to the personal preference settings of picture in the picture menu.

Digital options

Pixel Plus is the most ideal setting, doubles the horizontal resolution and increases the number of lines with 33%. You may consider to select Movie Plus in case a halo effect should disturb you. Dependent on your own preference, select Double lines, or 100 Hz Digital Scan.

Note: When 60 Hz NTSC material is used, the options are changed to Pixel Plus, Movie Plus or Progressive, progressive scan without motion compensation.

Active Control

The TV continuously measures and corrects all incoming signals in order to provide the best picture possible.

❶ Press the ▣ key on the remote control.

❷ The Active Control menu appears.

❸ Press the cursor up/down to select the Active Control values **Off**, **Minimum**, **Medium** (recommended) or **Maximum**.
The picture settings are being optimised continuously and automatically which is displayed by bars. The menu items can not be selected.

❹ Press the cursor right to select **Smart picture**.

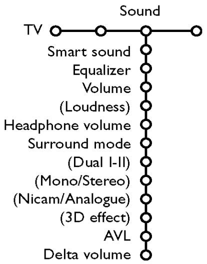
❺ Press the cursor up/down to select one of the predefined picture settings.

❻ Press the cursor right to select **Active Display**.

❼ Press the cursor up/down to select **Bars**, one of the Dual screen demos or **Off**.
When you select Dynamic contrast, Pixel Plus, Digital Noise Reduction or Digital Natural Motion, the TV screen is divided into two parts: in the left part the selected picture quality setting is switched off; in the right part it is switched on.

❽ Press the ▣ key again to switch off the Active Control menu.

Sound



❶ Press the cursor right to select **Sound**.

❷ Select the menu items in the Sound menu with the cursor up/down and adjust the settings with the cursor left/right. Remember, control settings are at normal mid-range levels when the bar scale is centred.

Smart sound

Select **Smart sound** to display a list of predefined sound settings, each corresponding with specific factory settings of Treble and Bass. **Personal** refers to the personal preference settings of sound in the sound menu.

Notes:
- *Some menu items are only available in case of a Cinema Link configuration and when the Cinema Link is activated. Others are steered by the audio receiver instead of by the TV. See the separate Cinema Link booklet supplied.*
- *Dual I-II is only available with dual sound transmission.*
- *Mono/Stereo is only selectable in case of analogue stereo transmission.*
- *Nicam/Analogue is only selectable in case of Nicam transmission.*

Surround Modes

Dependent on your personal preference and the sound signal broadcasted, select one of the Surround modes. Only the speakers indicated in the drawings can reproduce sound.

Stereo

This mode reproduces only the left and right front sound signals.

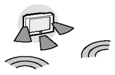
Dolby 3 Stereo

(optimal with Dolby Surround broadcasting)

The Dolby Pro Logic* sounds are distributed over the front left, the front right and the centre TV loudspeakers.

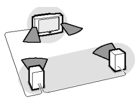
3D Surround

(optimal with Dolby Surround broadcasting)



3D Surround enables you to experience the 3D effect of Dolby Surround Pro Logic* without the need of having rear speakers connected or activated.
The graphical representation of the rear loudspeakers is replaced by the symbol)) ((.
Select the level of 3D effect with the cursor left/right.

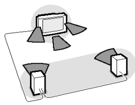
Hall



The sound signal is distributed over the rear loudspeakers which creates a hall effect from the rear.
The centre loudspeaker does not reproduce any signal.

Dolby Pro Logic

(optimal with Dolby Surround broadcasting)



All front and rear loudspeakers reproduce the Dolby Surround Pro Logic sounds.
This sound is always present in the movie or programme marked with DD Dolby Surround.

Note:
- *Normal stereo broadcast is not always encoded to produce a rear surround sound effect.*
- *In case of a Cinema Link receiver configuration connected, only the surround modes of the external receiver can be selected.*
- *Pro Logic and Hall can only be reproduced if Surround speakers is set to Yes in the Setup, Speakers menu, p. 8, and rear speakers are connected.*
- *When a headphone is connected, only the Surround mode **Stereo-headphone** is available.*

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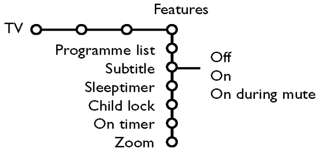
* Dolby' 'Pro Logic' and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation. Manufactured under license from Dolby Laboratories Licensing Corporation.

Features menu



Press the cursor right to select Features.
Select the menu items with the cursor up/down and adjust the settings with the cursor left/right.

Use the on-screen Menu-Info [i+] for more information about the menu items.

Programme list

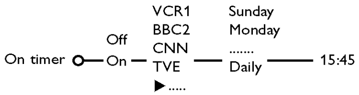
Press the **OK** key to switch over to the selected TV channel or external.

Select subtitles

The subtitle page must be stored for each TV channel:
Switch on teletext and select the proper subtitle page from the index. Switch off teletext.
Subtitle On will automatically display them on the selected TV channels if subtitles are in the transmission. A symbol will indicate that the mode is on.
Select **On during mute** when you want to have the subtitles automatically displayed only when the sound has been muted with the 🔇 key on the remote control.

On timer

❶ Select **On timer** with the cursor down.



❷ Select **On** with the cursor right.

❸ Press the cursor right again to enter the programme list.

❹ Select the TV channel or external you want your TV to switch to on a selected time and day.

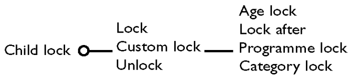
❺ Press the cursor right again to select a day of the week or to select **Daily**.

❻ Press the cursor right once again to enter the time with the digit keys or with the cursor up/down and press the **OK** key to activate.

❼ Press the **MENU** key to turn off the menu.
Note: To check your timer settings, press the [i+] key.

Child lock

❶ Select **Child lock**.



❷ Press the cursor right to enter the Child lock menu. You're summoned to enter your code.
Note: You have to re-enter your code each time you enter the child lock menu.

Important: You have forgotten your code ! See p. 10.

❸ Select one of the menu items of the child lock menu:
- **Lock** if you want to lock all channels and externals.
- **Custom lock** and press the cursor right.
  The items Age lock and Category lock are only available when NEXTVIEW broadcast is available.
  Select:
  - **Age lock** if you want to lock programmes related to a certain age: off, 2, 4 ... 18;
  - **Lock after** if you want to lock all programmes from a certain time onwards. Press the cursor right and enter the time with the cursor up/down and right. Press the **OK** key to validate.
  - **Programme lock** if you want to lock a certain TV channel or external;
  - **Category lock** if you want to lock programmes related to a certain theme: Movies, Sports, Shows.... See NEXTVIEW, p. 15.
- Select **Unlock** to disable all locks you have set.

Zoom

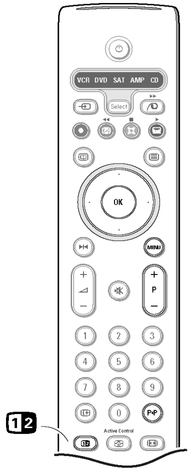
❶ Select **Zoom** with the cursor down and press the **OK** key.

❷ Press the **OK** key to select one of the zoom magnifications (x1, x4, x9, x16).

❸ Additionally you can shift the selected zoom window over the screen with the cursor keys up/down, left/right.

❹ Press the **MENU** key to switch off the zoom function.

Dual screen / PIP / Multipip



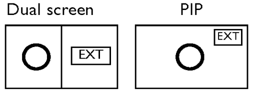
Remark: Normally only pictures from external equipment connected can be displayed in the auxiliary screen.
Full functionality is only available when having connected and activated an EasyLink recorder (of the generation P50.2 or successive). PIP3 or PIP 12 is not available without an EasyLink recorder connected.

Press the 12 key to switch on Dual screen or one of the PIP modes.
Press the 12 key again. The screen that has a yellow border will become the full main screen picture.

Notes:
- *Continuing to hold the 12 key down will cycle the TV through the various formats launching a new format after each second the key is held down. After standby of the TV, the preference as set in the Setup, General menu is used.*
- *When Dual screen mode is selected, two picture formats are supported: Full screen or 4:3 letterbox picture format (vertical squeeze).*
- *Audio from the right screen or the PIP plays to the headphones.*

Display options

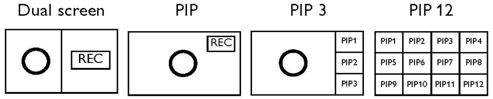
- **With external equipment (non EasyLink) connected and activated:**



No PIP 3 or PIP 12 available

Press the cursor right to highlight the right screen.
Press the cursor down to highlight the single PIP screen.

- **With an EasyLink recorder connected and activated:**



The tuner of the recorder is used for the right screen or for one of the PIP modes.
For PIP 3 or PIP 12: press the cursor right to enter the Multipip screen and then use the cursor keys to navigate through the PIP screens and to highlight a PIP screen.

Changing TV channels or external sources in left, right, PIP or Multipip screen

- Press the **-P+** key or the P◂P key in order to change the TV channels or external sources in the highlighted screen.
- Press the **OK** key to swap the left and the right screen or the highlighted pip screen.

Scan PIP3 or PIP 12

Navigate to the lowest PIP and press the cursor down to display a following series of PIP screens.

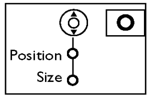
On-Screen information

The highlighted On-Screen information, which appears when changing channels, always refers to the active screen.

Define the position and the size of the single PIP screen

❶ Select a Dual screen mode with a single PIP screen.

❷ Press the cursor down to highlight the PIP screen. A PIP menu appears with which you can define the position and the size of the PIP screen.



Note: When the PIP menu times out, press the ok key to make it reappear.

❸ Press the cursor down again to select **Position** or **Size**.

❹ Press the **OK** key or the cursor right to activate.

❺ Use the cursor keys to define the position of the PIP screen. Use the cursor left/right to define the size of the PIP screen.

❻ Press the **OK** key. The PIP menu reappears.

❼ Press the cursor up to the top of the menu to highlight the main screen again.

❽ Press the **OK** key to switch off the menu or wait until it is timed out.

NEXTVIEW / Teletext guide

NEXTVIEW is an electronic guide that allows you to look up programmes as you would in a newspaper or a TV magazine. You can sort the programmes by subject (films, sport...), obtain detailed information and programme your video recorder if it comes with the NEXTVIEWLink function.

Important note: ***The NEXTVIEW service is only available on certain programmes and in certain countries****. When no NEXTVIEW information is broadcast, the teletext programme guide appears in its place. This is based on teletext programme information (if available) and offers most functions of NEXTVIEW.*
Note: The broadcaster is responsible for the content of the information.

Call NEXTVIEW / Teletext guide

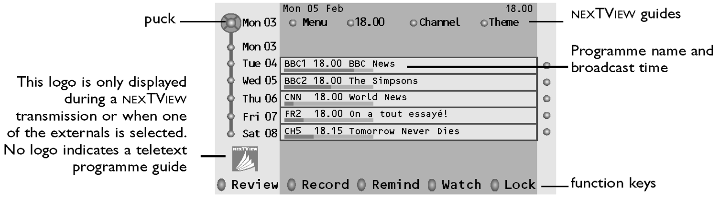
Press the ⊡ key on the remote control to call the NEXTVIEW/Teletext guide.
A menu appears with the message **One moment please.** After a while you obtain:
- a NEXTVIEW page, if the selected channel broadcasts this service (the NEXTVIEW logo is displayed),
- a teletext page, if the selected channel does not broadcast NEXTVIEW,
- **No information available** is displayed if neither NEXTVIEW nor teletext are transmitted. In this case, select another channel.

Select TV channels by theme

If NEXTVIEW with defined themes is broadcast, it is possible to quickly select TV programmes with the P◂P key. See Setup, General menu, Smart surf, p. 9.

Display of a NEXTVIEW page

The information is set by the channel that transmits the NEXTVIEW service. See also Setup menu, General, NEXTVIEW provider, p. 9.


puck
Mon 05 Feb
18.00
Mon 03
Menu
18.00
Channel
Theme
NEXTVIEW guides
Mon 03
Tue 04
Wed 05
Thu 06
Fri 07
Sat 08
BBC1 18.00 BBC News
BBC2 18.00 The Simpsons
CNN 18.00 World News
FR2 18.00 On a tout essayé!
CH5 18.15 Tomorrow Never Dies
Programme name and broadcast time
Review
Record
Remind
Watch
Lock
function keys

This logo is only displayed during a NEXTVIEW transmission or when one of the externals is selected. No logo indicates a teletext programme guide

Picture/NEXTVIEW - Teletext Guide

❶ Press the 📖 key. Press the 12 key to show NEXTVIEW-Teletext Guide on the right of the screen.

❷ Use the cursor keys to select a TV channel or to move the puck to the blue ball in the left screen.

❸ Press the 12 key to switch off dual screen.

NEXTVIEW guides

❶ Use the cursor key left/right to select **Time**, **Channel**, **Theme**, the **Date** guide.
The **Time guide** provides an overview of all programme titles active in the selected time block. The **Channel guide** provides an overview of all programmes that are broadcast by a single channel during one day. With the **Date guide** you can choose a specific date. The **Theme guide** displays a list of all programmes at the selected date, that matches with the selected category.
Going through the menu guide, the TV is collecting the sorting criteria to finally display a list of programme events.

❷ Press the **OK** key to select the guide type.

❸ Move the puck down and to the right to select the programmes.
If available a summary or commentary on the programme is displayed at the bottom of the screen.

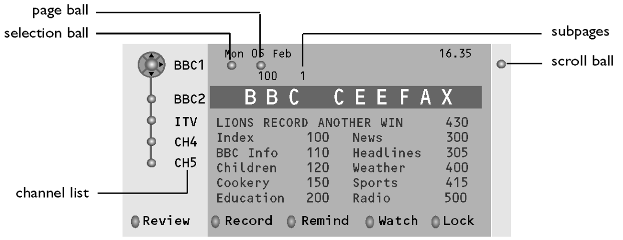
❹ Use the cursor up/down to scroll through the programmes.

Teletext Guide

❶ Enter with the digit keys, the teletext page number that contains the programme information for the current channel.

❷ Press the cursor right to move the puck over the selection ball.

❸ Use the cursor up/down to scroll through the different programmes.


page ball
selection ball
subpages
scroll ball
channel list
BBC1
BBC2
ITV
CH4
CH5
Mon 05 Feb
100 1
16.35
B B C C E E F A X
LIONS RECORD ANOTHER WIN 430
Index 100 News 300
BBC Info 110 Headlines 305
Children 120 Weather 400
Cookery 150 Sports 415
Education 200 Radio 500
Review
Record
Remind
Watch
Lock

- If the selected programme contains a page number with an optional subcode referring to a page with more info about the programme, press the **OK** key to display the information. Press the **OK** key again to return to the programme guide page.
- If the selected programme guide page satisfies the VPT requirements,
  - it will be possible to record, remind, watch or lock programmes:
  - the TV will remember the last selected teletext page number of that channel that contains programme guide information and indicates which programme starts at what time. Every time you press the 📖 key, the teletext programme guide page of the selected TV channel will be available.
- When necessary you can select the subpage number by moving the cursor to the pageball and pressing right.

Note: You must enter the teletext pagenumber for each channel. You can change the channels also by moving the cursor up/down in the list in the left of the page.

Basic functions

Press one of the grey ⏻, red ●, green ⓪, yellow ⛶ or blue 📖 keys to activate a NEXTVIEW or Teletext Guide function. The keys appear in grey if the function is not available.

Review: this menu provides a list of programmes that are marked as reminders, those that have to be recorded and those that are locked. This menu can be used to change or remove marked programmes.

Record: to programme the recording of the video recorder (if it has a NEXTVIEWLink function and is connected to **EXT. 2**).

Remind: automatically switch on the TV if it is in standby or by displaying a message if the TV is on.

Lock: to lock certain programmes to prevent recording or watching.
For the functions Record, Remind or Lock, a small menu pops up in which you can choose the interval: once, daily or weekly, or clear an earlier made record, remind or lock setting. The default interval is set to **Once**. To confirm the frequency, press the **OK** key.

Watch: to watch the selected and currently broadcast programme.

Acquisition and updating of NEXTVIEW information

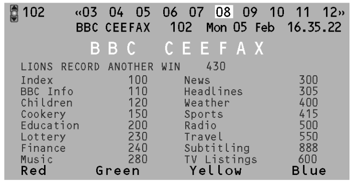
Acquisition and updating of NEXTVIEW is done when you are watching the TV channel of the selected NEXTVIEW provider, see Setup menu, p. 9, or when the TV is switched to standby;
Acquisition of fresh data will happen once during the night.
Note: it may be necessary to put the TV in standby mode when all NEXTVIEW information is outdated, e.g. when returning from holiday.

Teletext

Most TV channels broadcast information via teletext. This TV has a 1200 pages memory that will store most broadcasted pages and subpages to reduce waiting time. After each programme change, the memory is refreshed.

Switch Teletext on and off

Press ▤ to switch the teletext on.



```
102     «03 04 05 06 07 08 09 10 11 12»
        BBC CEEFAX  102  Mon 05 Feb  16.35.22
              B B C   C E E F A X
LIONS RECORD ANOTHER WIN    430
Index              100     News             300
BBC Info           110     Headlines        305
Children           120     Weather          400
Cookery            150     Sports           415
Education          200     Radio            500
Lottery            230     Travel           550
Finance            240     Subtitling       888
Music              280     TV Listings      600
Red         Green         Yellow          Blue
```

Select a Teletext page

- Enter the desired page number with the digit keys, the cursor keys up/down, left/right or with the **-P+** key.
- Select the options at the bottom of the screen with the colour keys.

Previously selected teletext page

(Only possible in case there is no list of favourite teletext pages available. See p. 19.)
Press the P◂P key.

Select the index teletext page

Press the grey colour key ▶▶ to display the main index (usually p.100).

Only for T.O.P teletext broadcasts :

Press ⓘ. A T.O.P. overview of the teletext subjects available is displayed.
Select with the cursor up/down, left/right the desired subject and press the **OK** key.
Not all TV channels broadcast T.O.P. teletext.

Select subpages

When a selected teletext page consists of different subpages, a list of available subpages appears on the screen.
Press the cursor left or right to select the next or previous subpage.

Enlarge a Teletext page

Press ⊡ repeatedly to display the upper teletext part, the lower teletext part and then to return to the normal teletext page size.
When the teletext page is enlarged, you can scroll the text, line by line using the cursor up/down.

Active screen selection

When in dual screen picture/teletext, enter the desired page number with the **-P+** key, then press the **MENU** key, then select the left screen (with the blue ball at the top).
You can now select a compressed or full screen view of picture/teletext with the ⊡ key.

Hypertext

With hypertext you can quickly jump to a pagenumber or search for a specific word shown on the current teletext page.

❶ Press the **OK** key to highlight the first word or a number on the page.
❷ Use the cursor up/down, left/right to select any other word or number you want to search for.
❸ Press the **OK** key to confirm. The search starts. A message appears at the bottom of the screen to indicate the searching, or that the word or page is not found.
❹ Use the cursor up to exit hypertext.

Teletext menu

(only available in full screen teletext mode)

❶ Press the **MENU** key to activate the menu.
❷ Press the cursor up/down to select the menu items.
❸ Press the cursor right to activate.

Reveal

Reveals/conceals hidden information on a page, such as solutions to riddles and puzzles.
Press the cursor right to activate.

Favourite

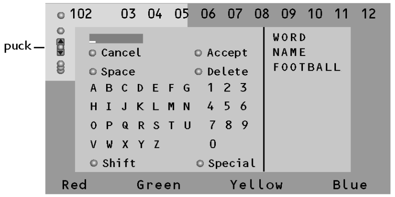
This list contains up to eight favourite teletext pages. Only the pages of the current channel can be selected.

❶ Press the cursor right to enter the list.
❷ Press the cursor right again to add the current page or to select one of the favourite pages to the list.
❸ Press the **MENU** key to watch the page.
❹ Use the P◂P key to browse through the list of favourite pages.

Search

Selecting a word

On the keyboard on screen you can type in a random word you want to search for in the teletext pages. Whether upper- or lowercase is used has no influence.



❶ Press the cursor right to enter the keyboard.
❷ Press the cursor left/right, up/down to select the characters, words or functions.
❸ Press the **OK** key to confirm each character selected.
❹ Select **Cancel** to cancel the word; **Space** to enter a space; **Delete** to delete the last character selected; **Shift** to switch between lowercase or capital characters; **Special** to display special characters on the keyboard and press the **OK** key.
❺ Press the cursor left repeatedly to return to the Teletext menu again.

Searching a word

❶ Type in the word on screen or select a word from the history list on the right and press **OK**.
❷ Select **Accept** and press **OK** again. The message Searching appears.
❸ To cancel the searching or to search for a new word, select **Keyboard** and press **OK**.
❹ When a word is not found, a message appears. When the word is found, it is highlighted in the teletext page. To continue the search, press the **OK** key.

Cycle subpages *(if available)*

Makes the subpages cycle automatically.
Press the cursor right to activate and to de-activate again.

Timed page

To display a specific page from a selected TV channel at a certain time.

❶ Press the cursor right and select **Yes** or **No**.
❷ Enter the time and pagenumber with the cursor keys or the digit keys.
Note: Teletext does not have to remain switched on, but you should watch the TV channel you have selected the specific page from.
❸ Press the cursor left to return to the TV menu again.

Language

If the displayed characters on screen do not correspond with the characters used by the teletext broadcaster, you can change the language group here.
Select **Group 1** or **Group 2** with the cursor right.

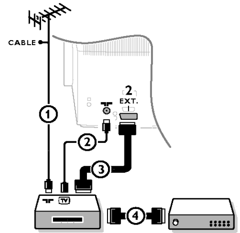
Press the **MENU** key to leave the Teletext menu.

Connect Peripheral Equipment

There is a wide range of audio and video equipment that can be connected to your TV.
The following connection diagrams show you how to connect them.

*Note: **EXT. 1** can handle CVBS and RGB, **EXT. 2** CVBS and Y/C, **EXT. 3** CVBS and RGB. It is preferred to connect peripherals with RGB output to **EXT. 1** or **3** as RGB provides a better picture quality.*
*If your recorder is provided with the EasyLink function, it should be connected to **EXT. 2** to benefit from the EasyLink functionality.*

Recorder (VCR-DVD+RW)

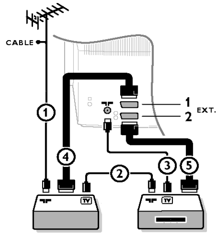


Connect the aerial cables ①, ② and, to obtain the optimum picture quality, eurocable ③ as shown.
If your recorder does not have a euroconnector, the only possible connection is via the aerial cable. You will therefore need to tune in your recorder's test signal and assign it programme number 0 or store the test signal under a programme number between 90 and 99, see Manual installation, p. 6.
See the handbook of your recorder.

Decoder and Recorder

Connect a eurocable ④ to your decoder and to the special euroconnector of your recorder. See also the recorder handbook. See Decoder, p. 9 You can also connect your decoder directly to **EXT. 1** or **2** with a eurocable.

Other equipment (satellite receiver, decoder, DVD, games, etc.)

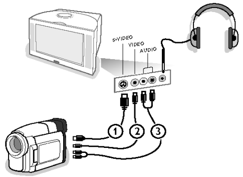


❶ Connect the aerial cables ①, ② and ③ as shown (only if your peripheral has TV aerial in-/output).
Connect your equipment with a eurocable ④ or ⑤ to one of the euroconnectors **EXT.1**, **2** or **3** to obtain a better picture quality.

❷ Look for the test signal of your peripheral in the same way as you do for a recorder.

❸ Make a selection in the Setup, Source menu, p. 10.

Side connections



Camera or Camcorder

❶ Connect your camera or camcorder as shown.

❷ Connect to **VIDEO** ② and **AUDIO L** ③ for mono equipment. For stereo equipment also connect **AUDIO R** ③. S-VHS quality with an S-VHS camcorder is obtained by connecting the S-VHS cables with the S-video input ① and audio inputs ③.
Do not connect cable ① and ② at the same time. This may cause picture distortion !

Headphone

❶ Insert the plug into the headphone socket 🎧 as shown.

❷ Press 🔇 on the remote control to switch off the internal loudspeakers of the TV.
The headphone impedance must be between 8 and 4000 Ohm. The headphone socket has a 3.5 mm jack.
In the Sound menu select **Headphone volume** to adjust the headphone volume.

Connect extra loudspeakers/amplifier

REAR multimedia loudspeakers

❶ Select **Surround speakers On** in the Setup menu, see p. 8.

❷ Connect the audio cables to the rear loudspeakers and to the Dolby Surround output **S** at the back of your TV. There is only one output for both speakers.

❸ Adjust the volume of the rear loudspeakers. Use the Test tone function in the Speakers menu, see p. 8.
Note: Once you have adjusted the volume of the rear loudspeakers, do not change it while watching TV as the whole configuration operates with the volume adjustment of your TV.

Stereo amplifier and 2 extra front speakers

❶ Select **Centre mode On** in the Setup, Speakers menu, see p. 8.

❷ Connect the audio cables to the audio input of your amplifier and to **AUDIO L** and **R** at the back of your TV.

❸ Adjust the volume of the audio amplifier. Use the Test tone function in the Setup, Speakers menu, p. 8.
Note: Once you have adjusted the volume of the external amplifier, do not change it while watching TV as the whole configuration operates with the volume adjustment of your TV.

To select connected equipment

Press the ⊕ key on the remote control repeatedly to select **EXT1**, **EXT2**, **EXT3** or **SIDE** according to where you connected your equipment at the back or the right side of your TV.

Remark : Most equipment (decoder, recorder) carries out the switching itself, when it is switched on.

Cinema Link surround receiver

See the separate supplied Cinema Link instruction manual.

Attention: the sound info on screen will not correspond with the actual sound reproduction.

Recorder or DVD with EasyLink

The recorder (VCR or DVD+RW) or DVD can be operated with the remote control via the **Recorder** or **DVD** menu on screen.

Recorder	◀◀	◀	■	▶	▶▶	●	▲
	Rwd	Play	Stop	Play	Ffw	Rec	Eject

DVD	◀◀	◀	■	▶	▶▶	▲
	Prev.	Play	Stop	Play	Next	Eject

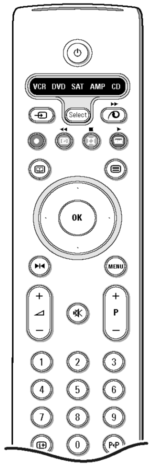
❶ Press the **MENU** key on the remote control.

❷ Select the **Recorder** or **DVD** menu with the cursor up/down.

❸ Press the cursor left/right, up/down to select one of the recorder or DVD functions.

The key ● for recording can be operated in the TV mode.
If your EasyLink recorder has the system standby function, when you press the ⏻ key for 3 seconds, both TV and the recorder are switched to standby.

Audio- and video equipment keys



Most of the audio and video equipment from the Philips range of products can be operated with the remote control of your TV.

Press the **Select** key to operate any of the equipment indicated in the display. Another device can be selected by pressing Select repeatedly within 2 seconds. The led will blink slowly to indicate the device.
Press one of the keys on the remote control to operate the peripheral equipment.
To return to TV mode press Select while the led is blinking.
When no action is taken within 60 seconds, the remote goes back to TV mode.

*Note: When the **Select** key is pressed and hold for more than 2 seconds, the RC5/RC6 system select command is transmitted.*

⏻	to switch to standby
▶◀	for pause (**VCR**, **DVD**, **CD**)
●	for record
◀◀	for rewind (**VCR**, **CD**); search down (**DVD**, **AMP**)
■	for stop
▶	for play
▶▶	for fast forward (**VCR**, **CD**); search up (**DVD/AMP**)
▭	to select your choice of subtitle language (**DVD**); RDS news/TA (**AMP**); to shuffle play (**CD**)
▤	to select a **DVD** title; RDS display (**AMP**); info on screen (**CD**)
i+	display information
MENU	to switch the menu on or off
- P +	for chapter, channel, track selection
0 to 9	digit entry
P◂P	tape index (**VCR**), select a DVD chapter, select a frequency (**AMP**)
⏲	VCR timer
⌘	surround on/off (**AMP**, **CD**)
cursor up/down	to select the next or the previous disc (**CD**)
cursor left/right	to select the previous or following track (**CD**) search up/down (**AMP**)

Selecting submodes for DVD+RW, SAT, CDR

❶ The remote control should be in TV mode.

❷ Press the **OK** key together with

- digit 1: **DVD** mode is selected
- digit 2: **DVD+RW** mode is selected
- digit 3: **SAT (RC5)** mode is selected
- digit 4: **SAT (RC6)** mode is selected
- digit 5: **CD** mode is selected
- digit 6: **CD-R** mode is selected.

Record with your recorder with EasyLink

In TV mode, it is possible to start a direct recording of the programme which is being displayed on the TV screen.
Continue to press the ● record key on the remote control for more than 2 seconds.

Note:
Switching programme numbers on your TV does not disturb recording !
*When recording a programme from a peripheral connected to **EXT. 1**, **3** or **SIDE**, you can not select another TV programme on the screen.*

Tips

Care of the screen	Clean the TV with a slightly damp soft cloth. Do not use abrasive solvent as it can damage the TV screen.
Poor Picture	• Have you selected the correct TV system in the manual installation menu? • Is your TV or house aerial located too close to loudspeakers, non-earthed audio equipment or neon lights, etc.? • Mountains or high buildings can cause double pictures or ghost images. Sometimes you can improve the picture quality by changing the direction of the aerial. • Is the picture or teletext unrecognisable? Check if you have entered the correct frequency. See Installation, p. 6. • Are brightness, sharpness and contrast out of adjustment? Select Factory settings in the Setup, General menu, p. 9. • Sometimes poor picture quality is possible when having activated an S-VHS camera or camcorder connected to the right side of your TV and another peripheral is connected to one of the externals at the same time. In this case switch off one of the other peripherals.
Digital distortion	The low quality of some digital picture material may be the cause of digital image distortion. In this case select the Soft setting using the Picture menu, Smart Picture, without changing the picture settings manually.
No picture	• Is the aerial connected properly? • Are the plugs tightly connected in the aerial socket? • Is the aerial cable in good condition and does it have suitable plugs?
No sound	• No sound on any channel? Check the volume isn't at minimum. • Is the sound interrupted with the mute key 🔇? Check if your speaker configuration corresponds with the selections made in the Setup menu, Speakers, p. 8.
No Surround sound	• Perhaps the channel is not broadcasting good quality surround sound. • No sound from the rear speakers or the centre speakers? Select an appropriate surround mode, according to the broadcasted sound signal or adjust the volume. See Surround Modes, p. 12.
No solution found for your picture or sound problem ?	Switch your TV off and then on again once. Never attempt to repair a defective TV yourself. Check with your dealer or call a TV technician.
Menu	Have you selected the wrong menu? Press the **MENU** key again to exit from the menu.
NEXTVIEW	**No NEXTVIEW info:** See Acquisition and updating of NEXTVIEW information, p. 17. **Displayed time is wrong:** The broadcaster on programme number one does not transmit the correct local date and time. Use Reshuffle in the installation menu to place another broadcaster on programme number one.
Remote control	• If your TV no longer responds to the remote control, the batteries may be dead. • Check if the remote control is in the correct mode. • You can still use the **M** key and the -/+ keys at the top of your TV.
Standby	Your TV consumes energy in the standby mode. Energy consumption contributes to air and water pollution. Power consumption: 1 W

4. Mechanical Instructions

Index of this chapter:

1. Service Connector
2. Set Disassembly
3. Service Positions
4. Assy / Board Removal
5. Set Reassembly

Note: Figures below can deviate slightly from the actual situation, due to the different set executions.

4.1 Service Connector (for ComPair)

For service diagnostics with ComPair, it is not necessary to disassemble the set. You only have to connect the ComPair interface box, via the appropriate cable, to the service connector (on the rear of the set, see figure below), and start the program.

4.2 Set Disassembly

Follow the disassemble instructions in described order.

4.2.1 Wireless Surround Transmitter Removal (if attached)

1. Remove the cable of the Wireless Surround Transmitter box (at the side of this RJ45 plug you can find the release-hook of the lock-mechanism).
2. Pull the Wireless Surround Transmitter box backwards. It is clicked to the rear cover via three clamps.

4.2.2 Rear Cover Removal

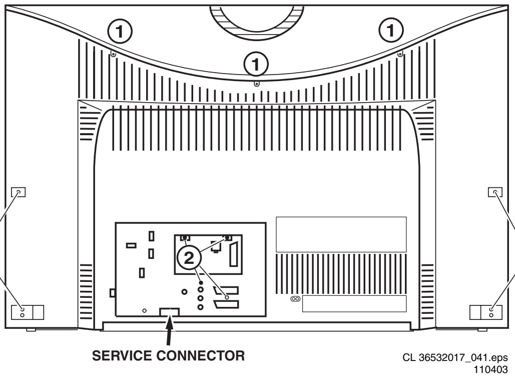


Figure 4-1 Rear view

Warning: disconnect the mains power cord before you remove the rear cover.

First, remove the top cover (= plate with 'saucer'):

1. Remove the fixation screw(s) [1] that hold the cover plate.
2. Pull the cover (horizontally) backwards.

To be able to access the electronics of the set, you must remove the rear cover:

1. Remove the fixation screws [2] of the rear I/O cover plate.
2. Remove the remaining fixation screws [3] at the two sides, and at the top of the rear cover.
3. Release at bottom side the rear cover securing clips and remove the rear cover. Make sure that wires and cables will not be damaged during the cover remove action.

4.2.3 Sub-woofer Removal

Caution: Do not disconnect the loudspeaker cable from the subwoofer box when the set is operative, because the class-D amplifier cannot handle a change in load during operation.
It is no problem when the subwoofer is disconnected **before operation**, but a change from connected to disconnected **during operation** can damage the amplifier.

1. Disconnect the loudspeaker cable connectors at the top of the sub-woofer box.
2. Unlock he subwoofer bracket and at the same time pull the unit backwards.
3. Take out the sub-woofer unit including the bracket.

4.3 Service Positions

This chassis has several predefined service positions, for better accessibility. They are explained below in more detail.

4.3.1 Solder Side '3rd SCART' panel

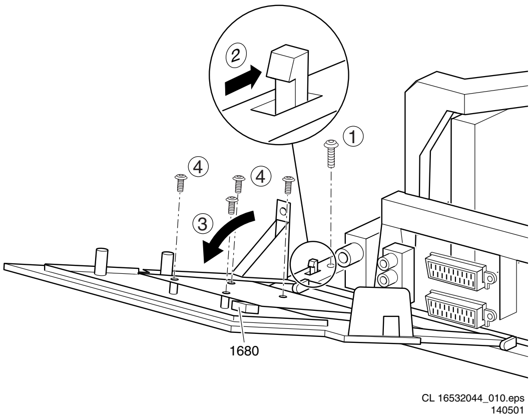


Figure 4-2 Service position 1

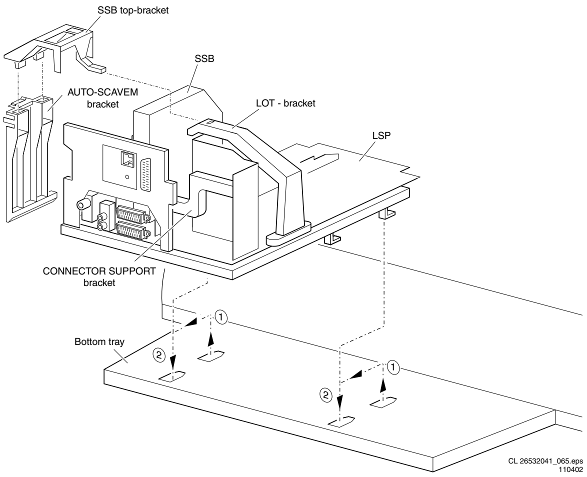
To remove or access the '3rd SCART' panel, do the following:

1. Remove fixation screw [1].
2. To release the fixation peg, push it towards the CRT [2].
3. At the same time, pull the complete module away from the LSP [3]. It hinges in the LSP-bracket. It is also possible to uncouple both hinges.
4. To remove the panel, disconnect the flat-cable from connector 1680 and remove the four panel screws [4].

4.3.2 Double Window PIP panel (If present)

1. Release the securing clamps and take out of the PWB to service the Double window PWB.

4.3.3 Component Side LSP



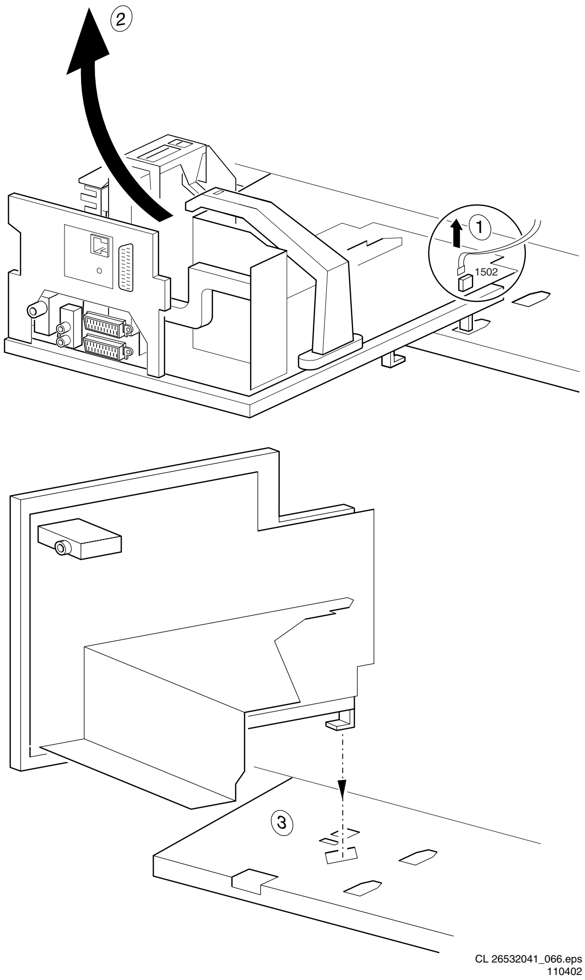
CL 26532041_065.eps
110402

Figure 4-3 Service position 2

For better accessibility of the LSP, do the following (see figure above):

1. Remove the LSP-bracket from the bottom tray by pulling it backwards.
2. Hook the bracket in the first row of fixation holes of the bottom tray. In other words, reposition the bracket from [1] to [2].

4.3.4 Solder Side LSP



CL 26532041_066.eps
110402

Figure 4-4 Service position 3

To get access to the bottom side (solder side) of the LSP, do the following (see figure above):

1. Unlock the DAF-module bracket (see paragraph 'DAF Assy/Panel' further down).
2. Unlock the Double Window, PIP module (if present), release the locking clip and pull the bracket out of the locking holes in the bottom plate.
3. Disconnect the degaussing coil connector 1502 [1] from the LSP.
4. Release the high voltage cable out of its guiding clamp.
5. Release the wiring from their fixation clamps, in order to position the LSP in the service position.
6. Some cables should be led underneath the CRT panel instead of above this panel.
7. Move the LSP to the left, at the same time rotate the panel 90 degrees clockwise [2] and next, place it upright at the left side of the bottom tray [3].
8. Put the panel with the right sided locking hook in the oblique accessed mounting hole in the bottom plate and pull it backwards to lock the panel in this position.

4.3.5 Small Signal Board (SSB)

Caution:
Always switch the set completely ‘OFF’ (disconnect the mains cord) before you remove or replace the SBB.
As the 5V2 standby voltage is always present (while the set is switched ‘On’, in ‘Standby’ or in ‘Protection’ mode) on the SIMM connector, it is very risky to remove the SSB in this situation, because the risk of short circuiting is very great.

In fact, there is no predefined service position for the SSB. Most test points are located on the A-side (side that is facing the tuner). If you have to replace ICs, you must take the complete SSB module out of the SIMM-connector.
Note: For good access to the A-side, it is necessary to remove the Auto-Scavem assy (at the left side of the SSB). See description in paragraph ‘Assy/Panel removal' to remove the Auto-Scavem panel/bracket.

To get access to the SSB test points, do the following:

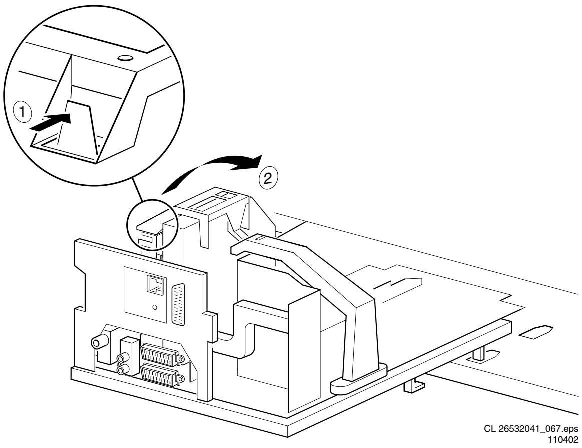


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Figure 4-5 SSB removal (part 1)

1. Put the LSP in service position 2 (as described above).
2. Release the two clamps at the top of the SSB bracket [2] and pull the bracket upward (it hinges in the bracket at the LOT side).
3. Now you can remove the complete SSB bracket.

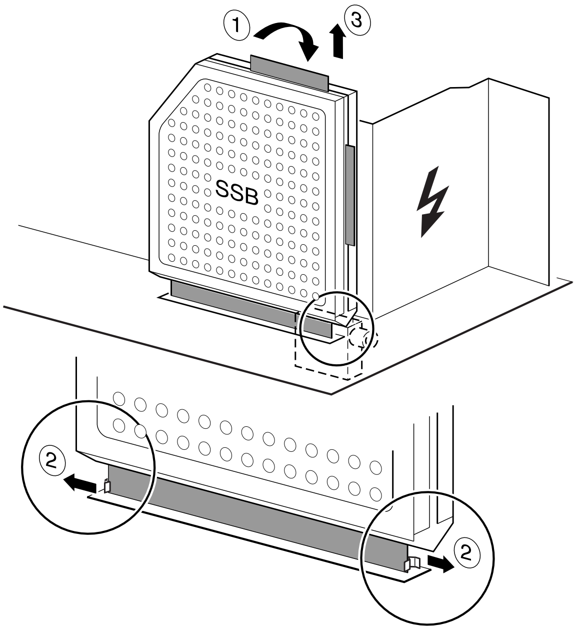

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Figure 4-6 SSB removal (part 2)

1. Push the top of the SSB towards the LOT [1].
2. Due to the pressure, the two metal clamps at both sides of the SIMM-connector will release [2].
3. Take the complete SSB out [3].

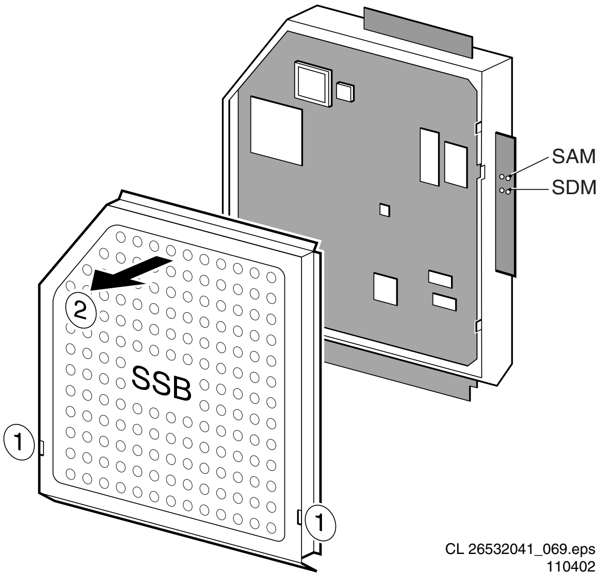

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Figure 4-7 SSB removal (part 3)

1. Once you have taken out the SSB, remove the shieldings [2]. Sometimes it is necessary to unsolder some solder-tags first [1].
2. Now re-place the SSB module in the SIMM-connector in reverse order.

Notes:
For better access to the SSB, it is possible to order an 'extension tool' with cables. You can use this service extension tool to connect a Small Signal Board (SSB) of an A10 or EMG (EMx) chassis, via 2 "IDE" cables to the SIMM connector in the set. In this way, you can service the SSB more easily outside the TV set. You can order this tool under 12nc: 9965 000 14526.

4.4 Assy / Board Removal

Sometimes, it can be necessary to swap a complete assy or Printed Wiring Board (PWB). How that can be done is explained below.

4.4.1 Top Control Assy/Panel

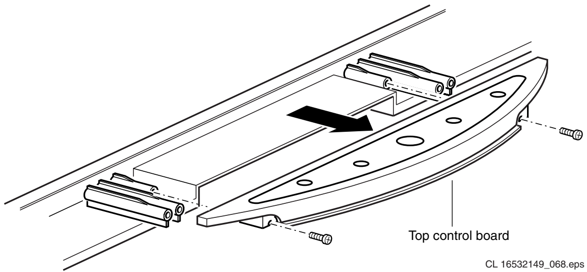

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Figure 4-8 Top control assy

1. Release both fixation screws about 5 full turns.
2. Pull the complete assy back- and upwards (it hinges in the cabinet front).
3. Flip the assy, and you can access the board by releasing (carefully) the four fixation clamps.

4.4.2 Side-I/O Assy and Panel

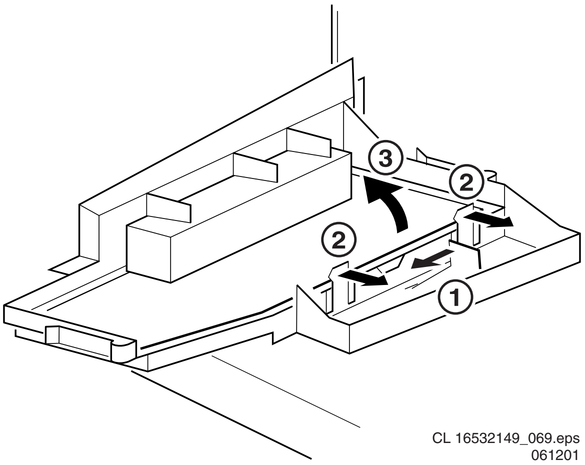

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Figure 4-9 Side I/O assy

1. Release the snap-hook [1] with your finger.
2. At the same time, pull the assy backwards [2].
3. Release the two fixation clamps on the right side of the bracket (the I/O board hinges at the left side).
4. Remove the board from the bracket.

4.4.3 Mains Switch Assy/Panel

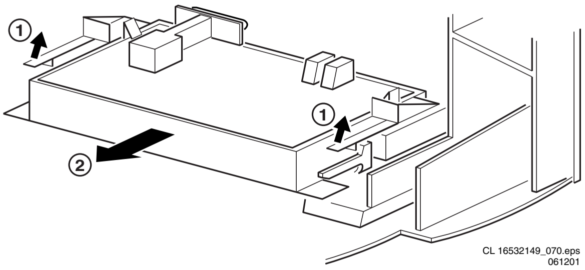

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Figure 4-10 Mains Switch Assy

1. Release the two fixation clamps (rather difficult to reach), by pushing them upwards [1]. At the same time, pull the complete assy backwards [2].
   Note: be aware that the degaussing coil can hamper this.
2. Release the two fixation clamps on the two sides of the bracket (the board hinges at the connector side).
3. Remove the board from the bracket.
4. When the light guide (sitting in the cabinet, in front of the LEDs) is defective, you can replace it by pushing it forwards at the left side (it hinges at the right side, seen from the rear).

4.4.4 DAF Assy/Panel

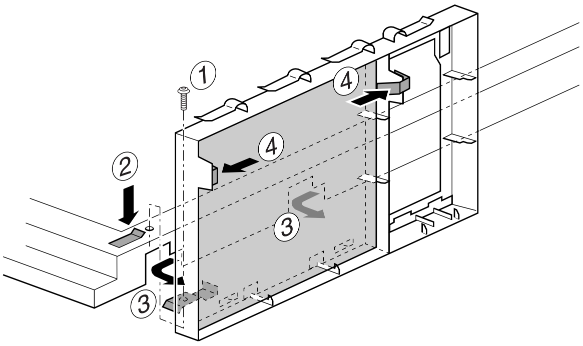


Figure 4-11 DAF-module

1. Remove the fixation screw [1] (if present).
2. Push down the fixation clamp [2], and pull the complete bracket at the same time away from the CRT [3]. The module is now free from the LSP-bracket.
3. Release the fixation clamps [4], in order to remove the print from its bracket.

4.4.5 Double window, PIP panel (If present)

1. It is not necessary to remove the Double window bracket.
2. To remove he Double window PWB, release both upper clamps and take out the PWB.

4.4.6 Auto-SCAVEM Assy/Panel

This panel is placed on the left side of the SSB (See figure 'Service Position 2'). Because most of its components are placed on the bottom side, you must lift the panel from its bracket before you can measure it.

1. Therefore, release the two fixation clamps at the top side.
2. Lift the panel from the bracket (it hinges at the bottom).

To remove the bracket:

1. First, remove the panel from the bracket, as described above.
2. Then, remove the two fixation screws at the bottom.
3. Lift the Auto-Scavem bracket slightly up, and at the same time bend the top a little away from the tuner.
4. Now, push the bracket into the direction of the CRT, and lift it out of the LSP-bracket.

4.4.7 Small Signal Board (SSB)

See paragraph 'Small Signal Board (SSB)' above.

4.4.8 Large Signal Panel (LSP)

1. Remove the SSB (see paragraph 'Small Signal Board,SSB' above).
2. Remove the Auto-Scavem assy (see paragraph 'Auto Scavem Assy/Panel' above).
3. Disconnect the necessary cables.
4. Release the fixation clamps on the left of the LSP-bracket (the board hinges at the right side).
5. Remove the board from the bracket.

4.5 Set Re-assembly

To reassemble the whole set, do all processes in reverse order.

Be sure that, before the rear cover is mounted:

- The mains cord is mounted correctly in its guiding brackets.
- All wires/cables are returned in their original positions. This is very important due to the large 'hot' area of the set

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:

1. Test points
2. Service Modes
3. Problems and solving tips (related to CSM)
4. ComPair
5. Error Codes
6. The blinking LED procedure
7. Protections
8. Repair tips

5.1 Test Points

The chassis is equipped with test points printed on the circuit board assemblies. They refer to the diagram letters.

Perform measurements under the following conditions:

- Service Default Mode.
- Video: colour bar signal.
- Audio: 3 kHz left, 1 kHz right.

5.2 Service Modes

Service Default Mode (SDM) and Service Alignment Mode (SAM) offer several features for the service technician, while the Customer Service Mode (CSM) is used for communication between a Philips Customer Care Centre (P3C) and a customer.

There is also the option of using ComPair, a hardware interface between a computer (see requirements below) and the TV chassis. It offers the ability of structured troubleshooting, test pattern generation, error code reading, software version readout, and software upgrading.
Minimum requirements: a Pentium processor, Windows 95/ 98, and a CD-ROM drive (see also paragraph "ComPair").

Note: In this chassis, two LED configuration are possible: with bicoloured LED (red/green) or with separate blue and red LEDs. The bicoloured version is the one we know from EM5E. The version with blue LED works slightly different. The blue LED is controlled by software (via ON_OFF_LED). The red LED will light in anti-phase to the blue one, but with a time delay. This means that if the blue LED is blinking fast, the red LED will stay off. But after the blue LED is "OFF" long enough, the red LED will go "ON".
So take care: In certain service modes (e.g. blinking LED, stepwise start-up, etc.) you must observe the blue LED and ignore the red LED.

5.2.1 Service Default Mode (SDM)

Purpose

- To create a pre-defined setting, to get the same measurement results as given in this manual.
- To override SW protections.
- To start the blinking LED procedure.

Specifications

- Tuning frequency: 475.25 MHz for PAL/SECAM.
- Colour system: SECAM L for France or PAL B/G for the rest of Europe.
- All picture settings at 50 % (brightness, colour, contrast).
- All sound settings at 50 %, except volume at 25 %.
- All service-unfriendly modes (if present) are disabled, like:
  - (Sleep) timer.
  - Child/parental lock.
  - Blue mute.
  - Automatic volume limiter (AVL).
  - Auto switch-off (when no video signal was received for 10 minutes).
  - Skip/blank of non-favourite pre-sets.
  - Smart modes.
  - Auto store of personal presets.
  - Auto user menu time-out.

How to enter SDM

Use one of the following methods:

- Use the standard RC-transmitter and key in the code "062596", directly followed by the "MENU" button.
  Note: It is possible that, together with the SDM, the main menu will appear. To switch it off, push the "MENU" button again.
- When you shorten for a moment the two solder pads on the 'external part' of the SSB print, with the indication "SDM". Activation can be performed in all modes, except when the set has a problem with the main-processor.
  Caution: If the SDM is entered via the pins, all the software-controlled protections are de-activated.
- Use the DST-emulation feature of ComPair.
- Use the "DEFAULT" button on the Dealer Service Tool (RC7150).

After entering this mode, "SDM" will appear in the upper right corner of the screen.

How to navigate

When you press the "MENU" button on the RC transmitter, the set will toggle between the SDM and the normal user menu (with the SDM mode still active in the background).

How to exit SDM

Use one of the following methods:

- Switch the set to STANDBY via the RC-transmitter.
- Press the "EXIT" button on the DST.
- Via a standard customer RC-transmitter: key in "00"-sequence.

5.2.2 Service Alignment Mode (SAM)

Purpose

- To perform (software) alignments.
- To change option settings.
- To easily identify the used software version.
- To view operation hours.
- To display (or clear) the error code buffer.

Specifications

- Operation hours counter.
- Software version.
- Option settings.
- Error buffer reading and erasing.
- Software alignments.

How to enter SAM

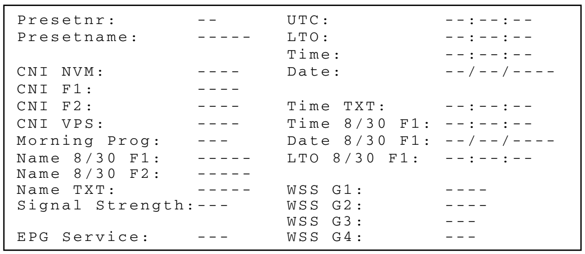
Use one of the following methods:

- Via a standard RC transmitter: key in the code "062596" directly followed by the "OSD [i+]" button. After activating SAM with this method a service warning will appear on the screen, you can continue by pressing any digit key on the RC.
- Short for a moment the two solder pads on the 'external part' of the SSB print, with the indication SAM. Depending on the software version it is possible that the service warning will appear, you can continue by pressing any digit key on the RC.
- Use the DST-emulation feature of ComPair.
- Press the ALIGN button on the DST while the set is in the normal operation

After entering this mode, "SAM" will appear in the upper right corner of the screen.

Contents of SAM:

- **OPERATION HOURS.** Displays the accumulated total of operation hours (not the standby hours).
- **HARDWARE INFO**
  - **ROM VERSION.** Displays the date of the software and the software version of the ROM (example: EM51EU1-1.0_01234 = AAABBC-X.Y_NNNNN).
    - **AAA**= the chassis name.
    - **BB**= the region: EU= Europe, AP= Asia Pacific PAL/Multi, AN= Asia Pacific NTSC, US= USA, LT= LATAM.
    - **C**= the language cluster number.
    - **X.Y**= the software version, where X is the main version number (different numbers are not compatible with one another) and Y is the sub version number (a higher number is always compatible with a lower number).
    - **NNNNN**= last five digits of 12nc code software.
- **ERRORS** (followed by maximal 10 errors). The most recent error is displayed at the upper left (for an error explanation see paragraph "Error Codes").
- **DEFECTIVE MODULE.** Here the module that generates the error is displayed. If there are multiple errors in the buffer, which are not all generated by a single module, there is probably another defect. It will then display the message "UNKNOWN" here.
- **RESET ERROR BUFFER.** When you press the "OK" button, the error buffer is reset.
- **ALIGNMENTS.** This will activate the "ALIGNMENTS" sub-menu.
- **DEALER OPTIONS.** Extra features for the dealers.
- **SERVICE OPTIONS.** Extra features for Service.
- **INITIALISE NVM.** When an NVM was corrupted (or replaced) in the former EM3 chassis, the microprocessor replaces the content with default data (to assure that the set can operate). However, all pre-sets and alignment values are gone now, and option numbers are not correct. Therefore, this was a very drastic way. In this chassis, the procedure is implemented in another way: The moment the processor recognises a corrupted NVM, the "INITIALISE NVM" line will be highlighted. Now, you can do two things (dependent of the service instructions at that moment):
  - Save the content of the NVM via ComPair for development analysis, before initialising. This will give the Philips Service department an extra possibility for diagnosis (e.g. when Development asks for this).
  - Initialise the NVM (same as in the past, however now it happens conscious).
- **STORE.** All options and alignments are stored when pressing the "OK"-button
- **FUNCTIONAL TEST.** All devices are tested via the "OK" button. Eventual errors are displayed in the error buffer. The error buffer is not erased, the content returns when this test is terminated.
- **DAILY MENUS.** With the "OK" button, you can go to the normal user menu. SAM is still active in the background. With the "MENU" button, you return from the user menu to SAM menu. This feature can be helpful to quickly change some settings in the user menu.
- **SW MAINTENANCE**
  - **UPGRADE.** Not applicable for this chassis
  - **EVENTS.** Not useful for service purposes. In case of specific software problems, the development department can ask for this info.
  - **BDM INFO.** Broadcast Debug Menu info. The purpose of this menu is to debug the broadcast, NOT the TV. The menu gives an overview of what is received on the current preset. Following items are displayed:



```
Presetnr:       --     UTC:          --:--:--
Presetname:     -----  LTO:          --:--:--
                       Time:         --:--:--
CNI NVM:        ----   Date:         --/--/----
CNI F1:         ----
CNI F2:         ----   Time TXT:     --:--:--
CNI VPS:        ----   Time 8/30 F1: --:--:--
Morning Prog:   ---    Date 8/30 F1: --/--/----
Name 8/30 F1:   -----  LTO 8/30 F1:  --:--:--
Name 8/30 F2:   -----
Name TXT:       -----  WSS G1:       ----
Signal Strength:---    WSS G2:       ----
                       WSS G3:       ---
EPG Service:    ---    WSS G4:       ---
```

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Figure 5-1 Broadcast debug menu overview

Table 5-1 Broadcast debug menu explanation

Item	Source	Description
Presetnr	Set	Presetnumber of the current selected preset.
Presetname	Set	Presetname of the current selected preset.
CNI NVM	Broadcaster	CNI number stored in NVM for the current preset.
CNI F1	Broadcaster	CNI number from transmitted Packet 8/30 Format 1.
CNI F2	Broadcaster	CNI number from transmitted Packet 8/30 Format 2.
CNI VPS	Broadcaster	CNI number from transmitted VPS line.
Morning Prog	Broadcaster	"ARD" or "ZDF" according to dedicated bit in 8/30 Format 1.
Name 8/30 F1	Broadcaster	Name extracted from status message of 8/30 Format 1.
Name 8/30 F2	Broadcaster	Name extracted from status message of 8/30 Format 2.
Name TXT	Broadcaster	Name extracted from TXT header.
Signal Strength	FBX	Noise figure measured for selected preset.
EPG Service	Set	EPG Service stored in NVM for current preset displayed as "TXT", "MCP", "SCP", "OCP".
UTC	Set	UTC (Universal Time Code formerly known as Greenwich Mean Time) used in the set.
LTO	Set	LTO (Local Time Offset) used in the set. Used by EPG for all Nextview displays. (= Time TXT header - Time 8/30 F1)
Time	Set	Current time running in the set. Was extracted at startup, then maintained by software.
Date	Set	Current date running in the set. Was extracted at startup, then maintained by software.
Time TXT	Broadcaster	TXT header time from the selected preset.
Time 8/30 F1	Broadcaster	UTC time from 8/30 Format 1.
Date 8/30 F1	Broadcaster	Date from 8/30 Format 1.
LTO 8/30 F1	Broadcaster	LTO from 8/30 Format 1.
WSS G1	Broadcaster	WSS Group 1 (Aspect Ratio) bits 0 1 2 3
WSS G2	Broadcaster	WSS Group 2 (Enhanced Services) bits 4 5 6 7
WSS G3	Broadcaster	WSS Group 3 (Subtitles) bits 8 9 10
WSS G4	Broadcaster	WSS Group 4 (Reserved) bits 11 12 13

How to navigate

- In SAM, you can select the menu items with the "CURSOR UP/DOWN" key on the RC-transmitter. The selected item will be highlighted. When not all menu items fit on the screen, move the "CURSOR UP/DOWN" key to display the next/previous menu items.
- With the "CURSOR LEFT/RIGHT" keys, it is possible to:
  - (De) activate the selected menu item.
  - Change the value of the selected menu item.
  - Activate the selected submenu.

How to exit SAM

Use one of the following methods:

- Press the "MENU" button on the RC-transmitter, or
- Switch the set to STANDBY via the RC-transmitter, or
- Press the "EXIT" button on the DST.

5.2.3 Customer Service Mode (CSM)

Purpose

When a customer is having problems with his TV-set, he can call his dealer. The service technician can than ask the customer to activate the CSM, in order to identify the status of the set. Now, the service technician can judge the severity of the complaint. In many cases, he can advise the customer how to solve the problem, or he can decide if it is necessary to visit the customer.
The CSM is a read only mode; therefore, modifications in this mode are not possible.

How to enter CSM

Use one of the following methods:

- Press the "MUTE" button on the RC-transmitter simultaneously with the "MENU" button on the TV (top control) for at least 4 seconds.
- Key in the code "123654" via the standard RC transmitter.

Note: Activation of the CSM is only possible if there is no (user) menu on the screen!

How to navigate

By means of the "CURSOR-DOWN/UP" knob on the RC-transmitter, you can navigate through the five menus.

Contents of CSM

Customer Service Menu 1

- **SOFTWARE VERSION (example: EM51EU1-1.0_01234).** Displays the build in software version. In case of field problems related to software, software flash-RAM pos.7006 must be changed by a new one. Do this via soldering. You will find details of the software versions in the chapter "Software Survey" of the "Product Survey - Colour Television" publication. This publication is generated four times a year.
- **FEATURE BOX.** The 12NC-number of the build in Feature Box software
- **SET TYPE.** This information is very helpful for a helpdesk/ workshop as reference for further diagnosis. In this way, it is not necessary for the customer to look at the rear of the TV-set.
- **CODE 1.** Gives the latest 5 errors of the error buffer. As soon as the built-in diagnose software has detected an error the buffer is adapted. The last occurred error is displayed on the leftmost position. Each error code is displayed as a 3-digit number. When less than 10 errors occur, the rest of the buffer is empty (000). See also paragraph "Error Codes" for a description.
- **CODE 2.** Gives the first 5 errors of the error buffer. See also paragraph Error Codes for a description.
- **VOLUME.** Gives the last status of the volume as set by the customer. The value can vary from 0 (volume is minimum) to 100 (volume is maximum). Volume values can be changed via the volume key on the RC-transmitter.
- **BRIGHTNESS.** Gives the last status of the brightness as set by the customer. The value can vary from 0 (brightness is minimum) to 100 (brightness is maximum). Brightness values can be changed via the "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "PICTURE" and "BRIGHTNESS".
- **CONTRAST.** Gives the last status of the contrast as set by the customer. The value can vary from 0 (contrast is minimum) to 100 (contrast is maximum). Contrast values can be changed via "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "PICTURE" and "CONTRAST".
- **COLOUR.** Gives the last status of the colour saturation, as set by the customer. The value can vary from 0 (colour is minimum) to 100 (colour is maximum). Colour values can be changed via "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "PICTURE" and "COLOUR".
- **HUE.** Only relevant for NTSC-signals (e.g. some NTSC-DVD-discs).

Customer Service Menu 2

- **SHARPNESS**. Gives the sharpness value. The value can vary from 0 (sharpness is minimum) to 7 (sharpness is maximum). In case of bad antenna signals, a too high value of the sharpness can result in a noisy picture. Sharpness values can be changed via the "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "PICTURE" and "SHARPNESS".
- **HEADPHONE VOLUME**. Gives the last status of the headphone volume, as set by the customer. The value can vary from 0 (volume is minimum) to 100 (volume is maximum). Headphone volume values can be changed via the "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "SOUND" and "HEADPHONE VOLUME".
- **DOLBY**. Indicates whether the received transmitter transmits Dolby sound ("ON") or not ("OFF"). Attention: The presence of Dolby can only be tested by the software on the Dolby Signalling bit. If a Dolby transmission is received without a Dolby Signalling bit, this indicator will show "OFF" even though a Dolby transmission is received.
- **SURROUND MODE**. Indicates the by the customer selected surround mode (or automatically chosen mode). In case the set is a Non-Dolby set, there will be displayed "0". If it is a Dolby-set then is displayed: "STEREO", "3 STEREO", "HALL", "3DSURROUND", "DOLBY PRO LOGIC" or "DOLBY DIGITAL". These settings can be influenced after pressing the "MENU" button and selecting "SOUND" and SURROUND MODE". It can also have been selected automatically by signalling bits (internal software).
- **TUNER FREQUENCY**. Indicates the frequency the selected transmitter is tuned to. The tuner frequency can be changed via the "CURSOR LEFT" and "CURSOR RIGHT" keys for fine tune after opening the installation menu and selecting "INSTALL" and "MANUAL INSTALL".
- **DIGITAL OPTION**. Gives the selected digital mode, "100 HZ", "DIGITAL SCAN", "NATURAL MOTION", "DOUBLE LINES", or "PIXEL PLUS". Change via "MENU", "PICTURE", "DIGITAL OPTIONS".
- **CENTRE TRIM.** Indicates the difference between main volume and volume of centre speaker. Change via: "MENU", "SETUP", "SPEAKERS", and "CENTRE VOLUME" (not available when "Surround Mode" is set to "STEREO" or "HALL"). The value can vary from "-10" to "+10"
- **TV SYSTEM.** Gives information about the video system of the selected transmitter.
  - BG: PAL BG signal received.
  - DK: PAL DK signal received.

- I: PAL I signal received.
- L/La: SECAM L/La signals received.
- M: NTSC M signal received with video carrier on 38.9 MHz.

Customer Service Menu 3

- **BALANCE.** Indicates the balance settings, between "-50" and "+50". Change via "MENU", "SOUND", and "BALANCE". Not applicable for Dolby Pro Logic sets.
- **CENTRE MODE.** Indicates if centre mode is set "ON" or "OFF". When centre mode is on, all TV speakers are used as one centre speaker. Change Centre mode via "MENU", "SETUP", "SPEAKERS", and "CENTRE MODE".
- **DNR.** Gives the selected DNR setting (Dynamic Noise Reduction), "OFF", "MINIMUM", "MEDIUM", or "MAXIMUM". Change via "MENU", "PICTURE", "DNR"
- **NOISE FIGURE.** Gives the noise ratio for the selected transmitter. This value can vary from 0 (good signal) to 127 (average signal) and to 255 (bad signal). For some software versions, the noise figure will only be valid when "Active Control" is set to "medium" or "maximum".
- **SOURCE.** Indicates which source is used and the video/audio signal quality of the selected source. (Example: Tuner, Video/NICAM) Source: "TUNER", "EXT1", "EXT2", "EXT3", "EXT4", "SIDE", "AV1", "AV2", "AV3" or "AV4". Video signal quality: "VIDEO", "S-VIDEO", "RGB 1FH", "YPBPR 1FH 480P", "YPBPR 1FH 576P", "YPBPR 1FH 1080I", "YPBPR 2FH 480P", "YPBPR 2FH 576P", "YPBPR 2FH 1080I", "RGB 2FH 480P", "RGB 2FH 576P" or "RGB 2FH 1080I". Audio signal quality: "STEREO", "SPDIF 1", "SPDIF 2" or "SPDIF".
- **AUDIO SYSTEM.** Gives information about the audio system of the selected transmitter: "ANALOGUE MONO", "ANALOGUE STEREO", "PCM 2/0", "DD 1/0", "DD 2/0 LtRt", "DD 2/0 L0R0", "DD 2/1", "DD 2/2", "DD 3/0", "DD 3/1", "DD 3/2", "DD 1+1", "MPEG 1/0", "MPEG 2/0", "MPEG 2/0 LtRt", "MPEG 2/1", "MPEG 2/2", "MPEG 3/0", "MPEG 3/1", "MPEG 3/2", "MPEG 1+1" or "MPEG 2+2".
- **TUNED BIT.** Gives information about the tuning method of the stored pre-set. If a channel is found via "automatic installation", you will see the value "Off". When you change this (automatically found) frequency via "fine tune" adjustment (installation menu - manual installation), the displayed value will change to "On". Therefore, when you see the value "On" in this line, it is an indication that the received channel is a non-standard signal (e.g. of a VCR).
- **SURROUND SPEAKERS.** Indicates if the surround speakers are present, "YES" or "NO". Change via "MENU", "SETUP", "SPEAKERS", and "SURROUND SPEAKERS".
- **ON TIMER.** Indicates if the "On Timer" is set "ON" or "OFF" and if the timer is "ON" also displays start time, start day and program number. Change via "MENU", "TV", "FEATURES", and "ON TIMER".
- **PRESET LOCK.** Indicates if the selected preset has a child lock: "LOCKED" or "UNLOCKED". Change via "MENU", "TV", "FEATURES", "CHILD LOCK", and "CUSTOM LOCK".

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- **CHILD LOCK.** Indicates the last status of the general child lock: "UNLOCK", "LOCK", or "CUSTOM LOCK". Change via "MENU", "TV", "FEATURES", "CHILD LOCK", and "LOCK".
- **AGE LOCK.** Indicates the last status of the EPG rating for child lock: "OFF", "4 YEARS", "6 YEARS", "8 YEARS", "10 YEARS", "12 YEARS", "14 YEARS" or "16 YEARS". This is only displayed if child lock is set to "CUSTOM LOCK"
- **LOCK AFTER.** Indicates at what time the child lock is set: "OFF" or e.g. "18:45" (lock time). This is only displayed if child lock is set to "CUSTOM LOCK"
- **CATEGORY LOCK.** Indicates the last status of the EPG theme childlock: "MOVIES", "NEWS", "SHOWS", "SPORTS", "CHILDREN", "MUSIC", "CULTURE", or "SERIES". This is only displayed if child lock is set to "CUSTOM LOCK". It is possible that more than one value is shown.
- **PROGRAM CATEGORY.** Indicates the theme of the selected transmitter: "MOVIES", "NEWS", "SHOWS", "SPORTS", "CHILDREN", "MUSIC", "CULTURE", or "SERIES".
- **TV RATINGS LOCK.** Only applicable for US.
- **MOVIE RATINGS LOCK.** Only applicable for US.
- **V-CHIP TV STATUS.** Only applicable for US.

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- **V-CHIP MOVIE STATUS.** Only applicable for US.
- **OPTIONS 1.** Gives the option codes of option group 1 as set in SAM (Service Alignment Mode).
- **OPTIONS 2.** Gives the option codes of option group 2 as set in SAM (Service Alignment Mode).
- **AVL.** Indicates the last status of AVL (Automatic Volume Level): "ON" or "OFF". Change via "MENU", "TV", "SOUND", "AVL"
- **DELTA VOLUME.** Indicates the last status of the delta volume for the selected preset as set by the customer: from "-12" to "+12". Change via "MENU", "TV", "SOUND", "DELTA VOLUME".
- **SURROUND TRIM L.** Indicates the last status of "SURROUND LEFT VOLUME" as set by the customer: from "-10" to "+10". Only available in Digital Dolby sets. Change via "MENU", "SETUP", "SPEAKERS", "SURROUND L VOLUME.
- **SURROUND TRIM R.** Indicates the last status of "Surround Right Volume" as set by the customer: from "-10" to "+10". Only available in Digital Dolby sets. Change via "MENU", "SETUP", "SPEAKERS", "SURROUND R VOLUME.
- **FRONT SPKR DIST.** Indicates the last status of the distance to the front speakers as set by the customer: "1m", "2m", or "3m",.... Change via "MENU", "SETUP", "SPEAKERS", "TO FRONT".
- **SURR. SPKR DIST.** Indicates the last status of the distance to the surround speakers as set by the customer: "1m", "2m", or "3m",.... Change via "MENU", "SETUP", "SPEAKERS", "TO SURROUND".

How to exit CSM

Use one of the following methods:

- After you press a key on the RC-transmitter (with exception of the "CHANNEL", "VOLUME" and digit (0-9) keys), or
- After you switch the TV-set "OFF" with the mains switch.

5.3 Problems and Solving Tips (related to CSM)

Note: Below described problems are all related to the TV settings. The procedures to change the value (or status) of the different settings are described above. New value(s) are automatically stored.

5.3.1 Picture Problems

Snowy/noisy picture

1. Check line 24 "Noise Figure". In case the value is 127 or higher, and the value is also high on other programs, check the aerial cable/aerial system. For some software versions, the noise figure will only be valid when "Active Control" is set to "medium" or "maximum".
2. Check lines 11 "Sharpness" and 24 "Noise Figure". In case the value of line 11 is 3 or 4 and the value of line 24 is high (127 or higher), decrease the "Sharpness" value.

Picture too dark

1. Press "MENU", "TV", "PICTURE", "SMART PICTURE". In case the picture improves, increase the "Brightness" or the "Contrast" value. The new value(s) are automatically stored (in "personal" pre-set) for all TV channels.

2. Check line 7 "Brightness" and 8 "Contrast". If the value of line 7 is low (< 10) or the value of line 8 is low (< 10), increase the "Brightness" or the "Contrast" value.

Picture too bright

1. Press "MENU", "TV", "PICTURE", "SMART PICTURE". In case the picture improves, decrease the "Brightness" or the "Contrast" value. The new value(s) are automatically stored (in "personal" pre-set) for all TV channels.
2. Check lines 7 "Brightness" and 8 "Contrast". If the value of line 7 is high (> 40) or the value of line 8 is high (> 50). Decrease the "Brightness" value or increase the "Contrast" value.

White line around picture elements and text

1. Press "MENU", "TV", "PICTURE", "SMART PICTURE". In case the picture improves, decrease the "Sharpness" value. The new value is automatically stored (in "personal" pre-set) for all TV channels.
2. Check line 11 "Sharpness". Decrease the "Sharpness" value. The new value is automatically stored for all TV channels.

No picture

Check line 27 "Tuned bit". In case the value is "No", install the required program again. Open the installation menu and perform manual installation.

Blue picture

No proper signal is received. Check the aerial cable/aerial system.

Blue picture and/or unstable picture

A scrambled or decoded signal is received.

Black and white picture

Check line 9 "Colour". In case the value is low (< 10), increase the "Colour" value. The new value is automatically stored for all TV channels.

No colours/colour lines around picture elements or colours not correct or unstable picture

1. Check line 20 "TV System". If a "strange" system pops up, something has gone wrong during installation. Re-install the channel.
2. In case line 20 is "L", the installed system for this pre-set is "France", while "West Europe" is required. Install the required program again: open the installation menu and perform manual installation. Select system "West Europe".

Menu text not sharp enough

1. Press "MENU", "TV", "PICTURE", "SMART PICTURE". In case picture improves, decrease the contrast value. The new value(s) are automatically stored for all TV channels.
2. Check line 8 "Contrast". The value of line 8 is high (> 50). Decrease the contrast value.

5.3.2 Sound Problems

No sound from left and right speaker

Check line 6 "Volume". The value is low. Increase the value of "Volume". The new value(s) are automatically stored (in "personal" pre-set) for all TV channels.

Sound too loud for left and right speaker

Check line 6 "Volume". The value is high. Decrease the value of " Volume". The new value(s) are automatically stored (in "personal" pre-set) for all TV channels.

5.4 ComPair

5.4.1 Introduction

ComPair (Computer Aided Repair) is a service tool for Philips Consumer Electronics products. ComPair is a further development on the European DST (service remote control), which allows faster and more accurate diagnostics. ComPair has three big advantages:

- ComPair helps you to quickly get an understanding on how to repair the chassis in a short time by guiding you systematically through the repair procedures.
- ComPair allows very detailed diagnostics (on I2C level) and is therefore capable of accurately indicating problem areas. You do not have to know anything about I2C commands yourself because ComPair takes care of this.
- ComPair speeds up the repair time since it can automatically communicate with the chassis (when the microprocessor is working) and all repair information is directly available. When ComPair is installed together with the SearchMan electronic manual of the defective chassis, schematics and PWBs are only a mouse click away.

5.4.2 Specifications

ComPair consists of a Windows based faultfinding program and an interface box between PC and the (defective) product. The ComPair interface box is connected to the PC via a serial or RS232 cable.
For this chassis, the ComPair interface box and the TV communicate via a bi-directional service cable via the service connector.

The ComPair faultfinding program is able to determine the problem of the defective television. ComPair can gather diagnostic information in two ways:

- **Automatic** (by communication with the television): ComPair can automatically read out the contents of the entire error buffer. Diagnosis is done on I2C level. ComPair can access the I2C bus of the television. ComPair can send and receive I2C commands to the micro controller of the television. In this way, it is possible for ComPair to communicate (read and write) to devices on the I2C busses of the TV-set.
- **Manually** (by asking questions to you): Automatic diagnosis is only possible if the micro controller of the television is working correctly and only to a certain extends. When this is not the case, ComPair will guide you through the faultfinding tree by asking you questions (e.g. Does the screen give a picture? Click on the correct answer: YES / NO) and showing you examples (e.g. Measure test-point I7 and click on the correct oscillogram you see on the oscilloscope). You can answer by clicking on a link (e.g. text or a waveform picture) that will bring you to the next step in the faultfinding process.

By a combination of automatic diagnostics and an interactive question / answer procedure, ComPair will enable you to find most problems in a fast and effective way.

Beside fault finding, ComPair provides some **additional features** like:

- Up- or downloading of pre-sets.
- Managing of pre-set lists.
- Emulation of the Dealer Service Tool (DST).
- If both ComPair and SearchMan (Electronic Service Manual) are installed, all the schematics and the PWBs of the set are available by clicking on the appropriate hyperlink.
  Example: Measure the DC-voltage on capacitor C2568 (Schematic/Panel) at the Mono-carrier.
  - Click on the "Panel" hyperlink to automatically show the PWB with a highlighted capacitor C2568.
  - Click on the "Schematic" hyperlink to automatically show the position of the highlighted capacitor.

5.4.3 Stepwise Start-up

Under normal circumstances, a fault in the power supply, or an error during start-up, will switch the television to protection mode. ComPair can take over the initialisation of the television. In this way, it is possible to distinguish which part of the start-up routine (hence which circuitry) is causing the problem. Take notice that the transition between two steps can take some time, so give the set some time to reach a stable state. During the transition time the LED can blink strangely.

Stepwise start- up explanation

This is realised via ComPair and is very helpful when a protection is activated (see also chapter "Protections").

Table 5-2 Stepwise start-up table

State	Description mode	Display LED	Enabled protection
0	Low power standby: 5V2/3V3 present, uP in standby-mode	On	None
1	High power Standby: TV-set in standby-mode	Wait 1s, flash 1 x	None
2	Main Power On : HOP in standby, 5V/8V present, I2C protections on, SSB is powered by standby-supply (5V/8V). Degaussing (12 s) has been activated, MSP is reset.	Wait 1s, flash 2 x	4 & 5
3	Initialized (Semi stand-by): most IC's are initialized, HOP still in standby	Wait 1s, flash 3 x	Plus 1, 6 & 18
4	HOP : HOP fully powered and working, EHT is present, rest of IC's initialized, black current stabilisation is off, picture is still blanked	Wait 1s, flash 4 x	Plus 2 & 16
5	On: TV-set operates, black current stabilisation is on, picture is unblanked	Wait 1s, flash 5 x	

Note (*):

- When the set is in stepwise mode and, due to stepping-up, a protection is activated, the set will really go into protection (blinking LED). The set will not leave the stepwise-mode however. If state X is the state where the set went to protection, stepwise start-up will return to state X-1. At state (X-1) diagnostic measurements can be performed. Also, in the short time the set is in state X but not yet in protection, you can also do some measurements.

5.4.4 How To Connect

1. First, install the ComPair Browser software (see the Quick Reference Card for installation instructions).
2. Connect the RS232 interface cable between a free serial (COM) port of your PC and the PC connector (marked with "PC") of the ComPair interface.
3. Connect the mains adapter to the supply connector (marked with "POWER 9V DC") of the ComPair interface.
4. Switch the ComPair interface "OFF".
5. Switch the television set "OFF" with the mains switch.
6. Connect the ComPair interface cable between the connector on the rear side of the ComPair interface (marked with "I2C") and the ComPair connector at the rear side of the TV (situated just below the tuner input, see also chapter 4).
7. Plug the mains adapter in a mains outlet, and switch the interface "ON". The green and red LEDs light up together. The red LED extinguishes after approx. 1 second while the green LED remains lit.
8. Start the ComPair program and read the "Introduction" chapter.

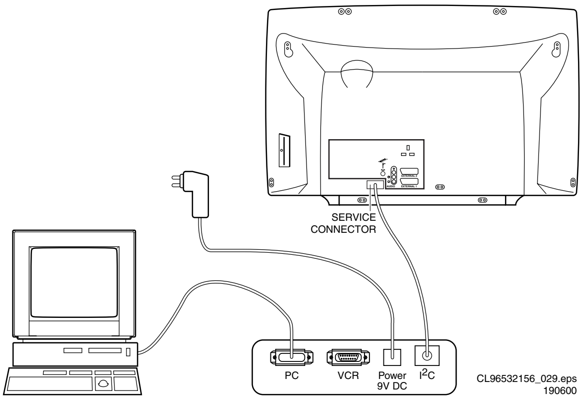


Figure 5-2 ComPair Interface connection

5.4.5 How To Order

ComPair order codes (EU/AP):

- Starter kit ComPair32/SearchMan32 software and ComPair interface (excl. transformer): 3122 785 90450.
- ComPair interface (excluding transformer): 4822 727 21631.
- Starter kit ComPair32 software (registration version): 3122 785 60040.
- Starter kit SearchMan32 software: 3122 785 60050.
- ComPair32 CD (update): 3122 785 60110.
- SearchMan32 CD (update): 3122 785 60120.
- ComPair interface cable: 3122 785 90004.

5.5 Error Codes

5.5.1 Introduction

The error code buffer contains all detected errors since the last time the buffer was erased. The buffer is written from left to right, new errors are logged at the left side, and all other errors shift one position to the right.
When an error has occurred, the error is added to the list of errors, provided the list is not full or the error is a protection error.
When an error occurs and the error buffer is full, then the new error is not added, and the error buffer stays intact (history is maintained), except when the error is a protection error.
To prevent that an occasional error stays in the list forever, the error is removed from the list after 50+ operation hours.
When multiple errors occur (errors occurred within a short time span), there is a high probability that there is some relation between them.

5.5.2 How to read the Error Buffer

Use one of the following methods:

- On screen via the SAM (only if you have a picture). Examples:
  - **0 0 0 0 0:** No errors detected
  - **6 0 0 0 0:** Error code 6 is the last and only detected error
  - **9 6 0 0 0:** Error code 6 was first detected and error code 9 is the last detected error
- Via the blinking LED procedure (when you have no picture). See next paragraph.
- Via ComPair.

5.5.3 How to clear the Error Buffer

Use one of the following methods:

- By activation of the "RESET ERROR BUFFER" command in the SAM menu.
- With a normal RC, key in sequence "MUTE" followed by "062599" and "OK".
- When you transmit the commands "DIAGNOSE" - "99" - "OK" with ComPair (or with a DST).
- If the content of the error buffer has not changed for 50+ hours, it resets automatically.

5.5.4 Error Codes

In case of non-intermittent faults, clear the error buffer before you begin the repair. This to ensure that old error codes are no longer present. Before clearing the buffer, write down the content, as this history can give you significant information.

If possible, check the entire contents of the error buffer. In some situations, an error code is only the result of another error code and not the actual cause (e.g., a fault in the protection detection circuitry can also lead to a protection).

There are various errors:

- I2C device errors.
- I2C bus errors.
- Protection errors.
- Errors not related to an I2C device, but of importance:
  - **BLACK CURRENT LOOP (ERROR 28):** detection of a continuous fail of the black current stabilisation loop of the HOP.
  - **FALCONIC (ERROR 26):** at start-up, after initialisation of the PICNIC, the presence of the FALCONIC can be checked.
  - **EAGLE (ERROR 27):** at start-up, after initialisation of the PICNIC, the presence of the Eagle can be checked.

Table 5-3 Error codes

Error	Device	Description	Def. item	Defect. module indication	Diag
1	M24C32	NVM, spontaneous blinking error 1	7011	Control	B5a
2	Hfail Protection	Horizontal Flyback protection	/	Horizontal Flyback	/
3	SAA4978	PICNIC	7713	Feature Box	B3a
4	Supply 5V	5V protection	/	+5V Supply	B5a
5	Supply 8V	8V protection	/	+8V Supply	B5a
6	Slow I2C bus blocked	Spontaneous blinking error 6	/	Slow I2C Blocked	/
7	TDA9330	HOP High-end Output Processor	7301	Video Controller	B4
8	TDA932x	HIP High-end Input Processor	7323	Chroma IF IO	B2
9	PCF8574	Wireless expander	7501	Sound Output	H
13	UV1318/...	Tuner protection	1T01	Tuner	A8
14	MSPxxxx	ITT sound processor	7A02	Audio module	B6a
16	FBX	Feature Box Protection	/	+3V (Fbx) Supply	B3
18	Fast I2C bus blocked	Spontaneous blinking error 18	/	Fast I2C Blocked	/
19	TDA8444	Auto Scavem DAC	7500	Auto Scavem	SC1
21	M62320P	PIP I/O Expander	7403	Video Dual Screen	C3
22	TDA888X	PIP BOCMA	7301	Video Dual Screen	C4
23	TELE9	PIP Tuner	7201	Video Dual Screen	C2
24	SAB9081	PIP Muppet	7801	Video Dual Screen	C1
26	SAA4992	Falconic	7718	+3V (Fbx) Supply	B3b
27	T8F24EF	Eagle	7724	+3V (Fbx) Supply	B3c
28	Black current loop	Black current loop	/	Video Controller	/
32	M29W400BT	Flash Ram (EPG)	7012	EPG Memory	B5a

Note:
Error codes 1, 6, or 18 are protection codes and in this case, supplies of some circuits will be switched "OFF". Also, in protection, the LED will blink the number of times equivalent to the most recent error code.

5.6 The Blinking LED Procedure

5.6.1 Introduction

Via this procedure, you can make the contents of the error buffer visible via the front LED. This is especially useful for fault finding, when there is no picture.

When the SDM is entered, the front LED will show (blink) the contents of the error-buffer. Error-codes = 10 are shown as follows:

- A long blink of 750 ms (which is an indication of the decimal digit),
- A pause of 1.5 s,
- "n" short blinks (where "n" = 1 - 9),
- When all the error-codes are displayed, the sequence finishes with a LED blink of 3 s,
- The sequence starts again.

Example: Error 12 9 6 0 0.
After activation of the SDM, the red front LED will show:

- 1 long blink of 750 ms (which is an indication of the decimal digit) followed by a pause of 1.5 s,
- 2 short blinks followed by a pause of 3 s,
- 9 short blinks followed by a pause of 3 s,
- 6 short blinks followed by a pause of 3 s,
- 1 long blink of 3 s to finish the sequence,
- The sequence starts again.

Note: If errors 1, 6 or 18 occur, the LED always gives the last occurred error even if the set is NOT in service mode.

5.6.2 How to Enter

Use one of the following methods:

- Enter the SDM (only via soldering pads marked "SDM" on SSB). The blinking red front LED will show the entire contents of the error buffer (this works in "normal operation" mode and in "protection" mode).

- Transmit the commands "MUTE" - "062500" - "OK" with a normal RC. The complete error buffer is shown. Take notice that it takes some seconds before the blinking led LED starts.
- Transmit the commands "MUTE" - "06250x" - "OK" with a normal RC (where "x" is a number between 1 and 5). When x= 1 the last detected error is shown, x= 2 the second last error, etc.... Take notice that it takes some seconds before the blinking led LED starts.
- "DIAGNOSE X" with the DST (where "x" is a number between 1 and 5). When x= 1 the last detected error is shown, x= 2 the second last error, etc.... When x = 0 all errors are shown.

5.7 Protections

5.7.1 Introduction

This chassis has only one microprocessor (OTC), which remains active during Standby. This because power of the microprocessor and the attached memory chip set is coming from the 3V3 supply, which is derived from the 5V Standby-circuitry. Therefore, in both Power-on as in Standby mode, the microprocessor is connected to this power supply.

If a fault situation is detected, an error code will be generated and if necessary, the set is put in protection mode. The protection mode is indicated by the blinking of the front LED at a frequency of 3 Hz (or by a coded blinking in special cases). In some error cases however, the microprocessor does not put the set in the protection mode (this is the case with the - hardware - loudspeaker protection of the audio amplifier).

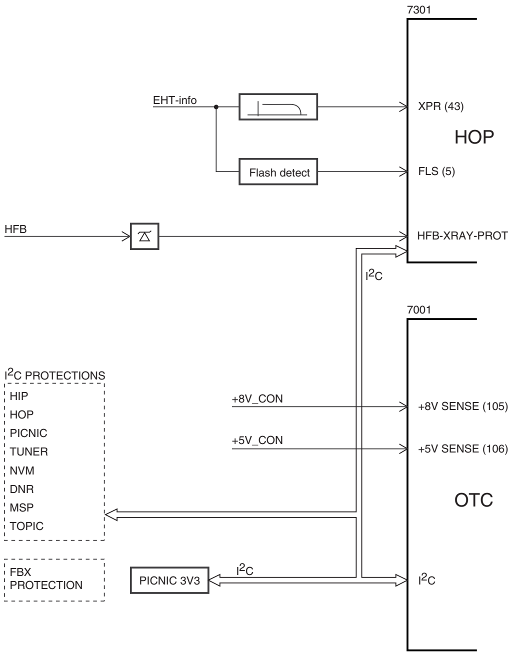
The content of the error buffer can be read via the service menu (SAM), the blinking LED procedure or via DST/ComPair.

To get a quick diagnosis, this chassis has three service-modes implemented:

- The **Customer Service Mode** (CSM).
- The **Service Default Mode (SDM).** Start-up of the set in a predefined way.
- The **Service Alignment Mode** (SAM). In this mode, items of the set can be adjusted via a menu.

You can enter both SDM and SAM modes via the 'service pads' on the SSB, via an RC-transmitter (DST or standard RC), or via ComPair. It is not possible to enter the SAM in "standby"; the TV has to be in "normal operation" mode.

The "Protection Diagram" shows the structure of the protection system. See diagram below.



CL 16532044_024.eps
090501

Figure 5-3 Protection diagram

There are several types of protections:

- I2C related protections.
- OTC related protections (via polling on I/O pins or via algorithms).
- HOP related protections (mainly for deflection items).
- Hardware errors that are not sensed by the OTC (e.g. vertical flyback protection, bridge coil protection, E/W protection, arcing protection).

All protections are explained below.

5.7.2 I2C Related Protections

In normal operation, some registers of the I2C controlled ICs are refreshed every 200 ms. During this sequence, the I2C busses and the I2C ICs are checked.
An I2C protection will take place if the SDA and SCL lines are short-circuited to ground, or to each other. An I2C error will also occur, if the power supply of the IC is missing (e.g. FBX_PROT (error 16)).

5.7.3 OTC Related Protections

If a protection is detected at an OTC input, the OTC will start to scan all protection inputs every 200 ms for 5 times. If the protection on one of the inputs is still active after 1 s, the microprocessor will put the set in the protection mode.
Before the scanning is started, a so-called "ESD refresh" is carried out. This is done, because the interrupt on one of the inputs is possibly caused either by a flash or by ESD. As a flash or ESD can influence IC settings, the HIP, MSP, 3D Comb (US only) and wireless module are initialised again, to ensure the normal picture and sound conditions of the set.

8 V and 5 V protection: The microprocessor senses the presence of the 8 V and 5 V (via the "+5V_CON" and "+8V_CON" lines). If one (or both) of these voltages is (are) not present, an error code is stored in the error buffer of the NVM, and the set is put in the protection mode.

5.7.4 HOP Related Protections

Every 200 ms, the status register of the HOP is read by the OTC (via the I2C bus). If a protection signal is detected on one of the inputs of the HOP, the relevant error bit in the HOP register is set to "high". If this error bit is still "high" after 1 s, the OTC will store the error code in the error buffer of the NVM and, depending on the relevancy of the error bit, the set will either go into the protection mode or not.

The following protections are implemented:
- **HFB (Horizontal Flyback):** If the horizontal flyback is not present, this is detected via the HOP (HFB_X-RAY_PROT). One status bit is set to "high". The error code is stored in the error buffer and the set will go into the protection mode.
- **XPR (X-ray protection):** If the HFB pulses are too low (level detection), the HOP will detect this via the XPR-bit. The error will be logged in the error buffer and the set will go into protection mode.

Note: Both errors will be logged as HFB-failure.

5.7.5 Hardware Related Protections

Due to the architecture ("hot" deflection), some protections cannot be sensed by the microprocessor. Three of these protections will lead to a protection on set level (Standby mode and blinking LED), while another will only lead to a circuit protection.

TV-set Protection

The following fault conditions will lead to a "complete" set protection:
- **BRIDGECOIL protection:** This is sensed via the "EW" signal going to the base of TS7652 (via R3495 and D6499). In a normal situation, the voltage on C2498 (diagram A4) is high and TS7652 is conducting. When bridge coil 5422 (diagram A3) is short circuited, the voltage on C2498 changes to low, which will block TS7652. In this case, also TS7641 will block and the voltage on 2642 will rise until TS7443 is forced in conduction. The "SUP-ENABLE" signal (in normal operating condition -20 V) is shorted now to ground level, which will force the Main Power Supply to Standby mode.
- **ARC protection:** If there are "open" connections (e.g. bad solder joints) in the high-energy deflection circuitry, this can lead to damaging effects (read: fire). For that reason, the E/W current is sensed (via 3479//3480). If this current becomes too high, the "thyristor" circuit (TS7653 and TS7654) is triggered. TS7442 is switched "on" and TS7443 is forced into conduction. . The "SUP-ENABLE" signal is shorted now to ground level, which will force the Main Power Supply to Standby mode.
- **NON_VFB (No vertical Flyback) protection:** If the frame stage generates no pulses, TS7641 will block. TS7443 is now switched "on", which will lead to Standby mode. Therefore, in normal operation condition, TS7641 and TS7652 are conducting, while TS7443 is blocked.

Circuit Protection

The following fault condition will lead to a "partly" set protection:
- **PROT1 (DC) protection:** When a DC-voltage (positive or negative) is sensed on one of the loudspeaker outputs, the protection circuit (TS7704, 7705, 7706 and 7707 in diagram A6) will put the IC7700 in Standby mode (via tri-state input pin 6). For more details, see chapter "Circuit Descriptions".

5.8 Repair tips

5.8.1 Miscellaneous

The relay you hear when you switch the set "on" (from Standby or via the mains switch), is from the degaussing circuitry. It is not used for switching the Power Supply (as done in the MG-chassis).

Take care not to touch the "hot" heatsink while disconnecting the SSB, despite the fact that the mains cord is out of the mains socket. There can still be an annoying rest-voltage on the heatsink for a short while. This, because the discharge resistors 3502 and 3503 (on the LSP between hot and cold part) are not stuffed for Europe. Instead, discharge resistors 3066 and 3057 on the Mains Switch panel are used, but because they are located before the Mains switch, they only discharge when this switch is "on".
Advice: when you remove the SSB, disconnect the Mains cord, but keep the Mains Switch "on".

Do not try to measure on the SSB side, which is facing the 'hot' heatsink. This is dangerous. Most service test points are guided to the 'tuner' side and are indicated by the 'service' printing.
Where the circuitry was too "crowded" for service printing, you can find the correct location on the "test point overviews" in this manual.
A very large part of the LSP is **"hot"**, such as:
- The primary part of the Standby Supply.
- The whole Main supply (except for the secondary Audio supply).
- And the complete deflection circuitry (so notice that the deflection coil is hot!).

5.8.2 Start-up Sequence

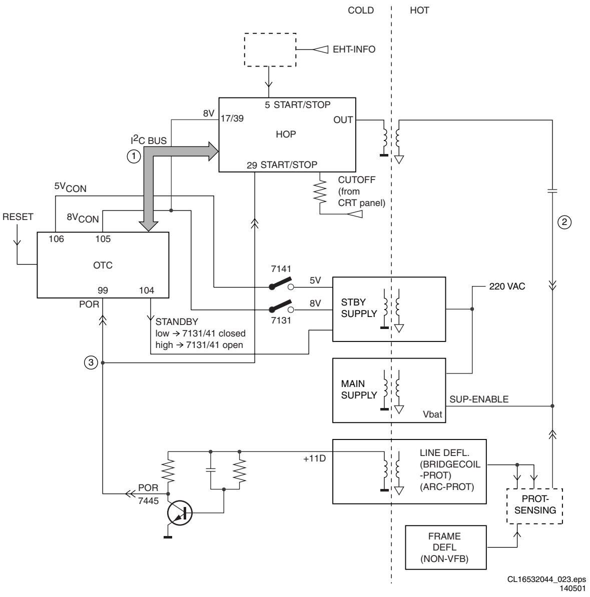


Figure 5-4 Start-up circuitry

The start up sequence differs from other sets (e.g. MG-sets or EM2E-sets, but is same as in EM3E-set):
1. When the set is switched "on", the 5 and 8 V lines ("+5V_CON" and "+8V_CON") of the standby power supply are activated.
2. After the OTC senses them, the P will address the HOP via the I2C-bus, to start the drive [1].
3. Via the "SUP-ENABLE" signal, the Main Supply is switched "on" and will deliver the V_BAT to the Line deflection stage [2].
4. EHT generation is now started.
5. The OTC will un-blank the picture.
6. When you switch "off" the set, this is done in a controlled way via the POR signal [3].

Note: Standby is not directly achieved via the Standby line of the microprocessor, but indirectly via the HOP circuitry.

5.8.3 ComPair

This chassis does not have an IR transmitting LED (as in MG-sets). Therefore, a "Service" (ComPair) connector is implemented at the rear side of the set, which is directly accessible (as in A10-, EM2E-, EM3E and EM5E-sets). In addition to this, there is also a blinking LED procedure to show the contents of the error buffer.

When you use ComPair, you have the possibility to activate a "stepwise start-up" mode. With this mode, you can initiate the start-up sequence step by step. This also means that in certain steps, some protections are not activated. This is sometimes very convenient during repair.

5.8.4 Protections

Activating SDM via the "service pads" will overrule the processor-controlled protections, but not the hardware protections. This means, that the A/D-input protections (5 and 8 V) and the I2C "not-acknowledging" info of the feature box (FBX) and of the Tuner are overruled.
Caution: When doing this, the service technician must know what he is doing, as it could lead to damaging the set.

The "ARC"- and/or "BRIDGECOIL" protection are hardly ever triggered, however:
- When you suspect the "ARC" protection, look for bad solder joints and smell. By interrupting resistor 3497, this protection is disabled (special attention needed!).
- When you suspect the "BRIDGECOIL" protection, which can also be due to a too wide picture amplitude, shorten G and S of the E/W MOSFET 7480. This will disable the protection. You will now have minimal horizontal amplitude. Re-align the horizontal amplitude in the SAM menu and remove the G/S short of TS7480.

5.8.5 Main Supply

The simplest way is, to replace the components of the Main Supply with repair kit 3122 785 90310.

More detailed way:
1. Replace FET 7504 and zener 6505.
2. Remove the SSB panel.
3. Short B and E of TS7529, in order to put the Main Supply in "on"-mode (TS7529 is blocking then).
   Caution: To prevent that R3403 and TS7443 will be damaged, **first disable the HW-protection of the deflection circuit.** Therefore short circuit C2642 on the LSP (diagram A4).
4. Attach a load of 500 O to V_BAT capacitor C2515 (the supply can not work without a minimum load).
5. Use a variac, and slowly increase the V_MAINS. Measure over sensing resistors R3514//15, if a nice sawtooth voltage becomes available.
6. Also measure the V_BAT. This may never exceed +141 V. If it does, there is something wrong in the feedback circuitry (e.g. regulator 7506).

Note: Be careful when measuring on the gate of FET TS7504. This circuitry is very high ohmic and can easily be damaged (first connect ground to measuring equipment, than measure the gate).

5.8.6 Standby Supply

The simplest way is to replace the components of the Standby Supply with repair kit 3122 785 90460.

5.8.7 Line Deflection

The simplest way is to replace the components of the Line Deflection circuitry with repair kit 3122 785 90330.

5.8.8 Frame Deflection

Caution: When the Frame Deflection circuitry is suspected, one must be careful. Because there is a DC-voltage on the frame deflection, **the beam current could damage the CRT neck, leading to a defective CRT.**

To prevent this from happening, you must:
1. Interrupt the resistors 3403 and 3404 on the CRT panel (diagram F1), in order to remove the "filament" voltage from the tube (no beam current, so no chance of destroying the CRT).
2. Interrupt resistor 3403 on the LSP (diagram A4) to disable the "SUP-ENABLE" line.
3. Measure with a multi-meter, or better with a oscilloscope, the functionality of the Frame stage.
4. After you have found the cause, exchange the defective component (e.g. TDA8177), and re-solder the interrupted resistors.

Phenomenon	Possible Cause	Repair tip
No picture, no LED.	Standby Supply defective.	Measure circuitry (see diagram A2). Start at test-point A19. When the Mains switch is 'on', this voltage must always be available
No picture, no LED.	Bad connection of SSB in SIMM-connector.	In case of a bad connection, it can happen that there is no picture, and that the Standby LED is not controllable. Re-place the SSB.
No picture, LED blinking at 3 Hz.	Set is in protection due to various causes. For error codes see error-code list.	You have no picture, so: - Read the error buffer via ComPair (error buffer is accessible when set is in protection, compare-file will guide you to this) - Read the blinking LED information via standard remote command <mute>06250X<ok> - Or you read the error code sequence via standard remote command <mute>062500<ok>. When you have found the error, check the circuitry related to the supply voltage and I^2C-communication or the circuitry that triggers the protection.
No picture, LED blinking with code 6-6-6 or 18-18-18.	No communication on slow I^2C- or fast I^2C-bus.	As processor cannot communicate with one of the 2 busses it the standby-led spontaneously starts blinking 6-6-6... or 18-18-18... If in the error buffer somewhere is an error 6 or 18, these will have the highest priority starting the mentioned blinking. Measure dependent of the error on the I^2C-bus which device is loading the bus. (Use I^2C -overview)
No picture, LED blinking with code 1-1-1.	No communication on NVM-I^2C bus to the uP.	As the uP cannot communicate with the NVM I^2C bus, it spontaneously starts blinking 1-1-1. Note: when there is no access to the NVM, a lot of picture setting can go wrong.
No picture, no sound. Set is making audible squeaking sound	Supply is possibly in hiccup-mode, which is audible via a squeaking supply transformer.	Possible causes: - V_{BAT} is shorted (caused by short circuited line transistor 7421), or - Sound winding is shorted (amplifier is shortening the power supply lines), or - D6514 is shorted (due to a too high V_{BAT}). Remove excessive load, to see what causes the failure, or check feedback circuit. See repair tip 'Main Power Supply' (supply needs a minimal load).
No picture, no sound. Power LED works fine	Supply does not work correctly.	If e.g. V_{BAT} is only about 90 V, it is possible that the regulator IC (7506) is defective.
No RC-reception. LED does not echo RC-commands.	uP circuitry or RC-receiver is defective.	In case the set does react on a local keyboard operation, you must check the RC-receiver circuitry (diagram E).
Relay (degaussing) is not audible, when set is switched from 'off' or 'standby' to 'on'.	uP is not working correctly. When pin 115 is low, the degaussing must be activated.	Check RESET-circuitry on diagram B5. Check the level on pin 115 when you switch the set 'on'. Signal must be low initially and go to high after approx. 12 s.
Picture is rotated.	Rotation circuitry on diagram A5, or related supply to it, malfunctions.	Measure test points on diagram A5.
Picture is continuously switching 'off' and 'on', showing heavy 'switch' spots (set does not go into protection).	200 V is missing on CRT panel.	Probably a bad connection from LSP connector 1424 to CRT connector 1424 (diagram F1), or an interruption of the 200 V supply line (e.g. R3341 on circuit F1 is interrupted).
Picture is not sharp.	Focus is possibly mis-aligned or SCAVEM-circuitry does not work correctly.	Re-align the 'focus' potmeter on the Line Output Transformer, or check the SCAVEM circuitry on the CRT-panel (diagram F2). It is also possible that the DAF circuitry is defective (see diagram I). Check the Vdc values.
Picture is not synchronised.	The sync is derived in the HIP from x-tal 1305 and/or 1308.	Maybe the crystals 1305 and/or 1308 are making a bad contact.
Picture is distorted.	Check video-path in Service Default Mode.	Investigate whether there is an error code present in the error buffer. In case there is one, check the I^2C -bus and/or supply lines (see overview supply lines). Measure and check signal path Tuner-HIP-PICNIC-HOP-RGB amplifier. In case it is a geometry issue, check on diagram A4 opto-coupler 7482, Opamps 7440/7450 and the Frame circuitry alignments or a possible corrupted NVM (7011) on diagram B5.
Picture with horizontal stripes.	Pixel Plus processing is malfunctioning	Check functionality on circuitry (B3a, B3b, and B3c) of PICNIC (7713), FALCONIC (7718, EAGLE (7724) and/or field memories (7714, 7717, 7719, 7722 and 7723. Tip the whole Pixel Plus chipset (3 ICs + 5 Field Memories can be diagnosed very good via ComPair.
No menu, no OSD.	Probably a defective uP.	Measure test points B61to B64 on diagram B5.
No NexTView (EPG).	IC7012 defective or not powered.	Check circuitry around IC7012 on diagram B5.
No Teletext.	IC7007 defective or not powered.	Check circuitry around IC7007 on diagram B5. Check also B61to B64 around uP on diagram B5.
Strange switch 'off' behaviour	TS7445 possibly defective.	Check, with a multi-meter, whether transistor TS7445 is well functioning. (diagram A3).
Various symptoms, due to missing local supply voltage.	An interrupted fuse, NFR-resistor or connection.	When no symptom or error code leads you to a specific circuitry, use the supply lines overview (see chapter 6), for a quick scan of all supply lines.

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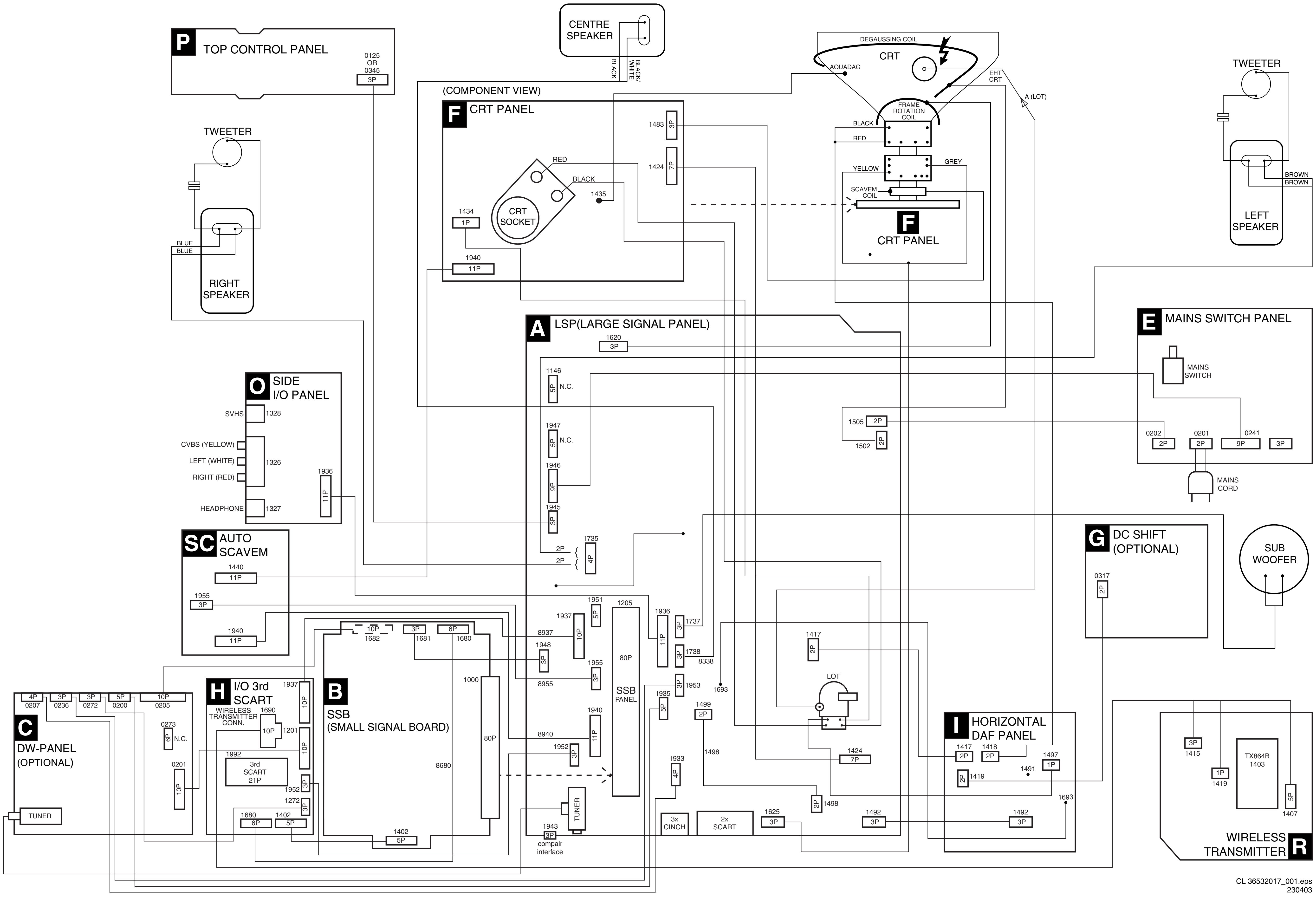
Figure 5-5 Repair tips

Personal Notes:

6. Wiring Diagram, Block Diagrams and Overviews

Wiring Diagram


P TOP CONTROL PANEL
0125 OR 0345
3P
CENTRE SPEAKER
BLACK
BLACK/WHITE
DEGAUSSING COIL
CRT
AQUADAG
EHT CRT
A (LOT)
TWEETER
(COMPONENT VIEW)
F CRT PANEL
1483
3P
1424
7P
RED
BLACK
1435
1434
1P
CRT SOCKET
1940
11P
FRAME ROTATION COIL
BLACK
RED
YELLOW
GREY
SCAVEM COIL
F
CRT PANEL
TWEETER
BROWN
BROWN
LEFT SPEAKER
TWEETER
BLUE
BLUE
RIGHT SPEAKER
A LSP(LARGE SIGNAL PANEL)
1620
3P
1146
5P
N.C.
1947
5P
N.C.
1946
9P
1945
3P
1735
2P
2P
4P
E MAINS SWITCH PANEL
MAINS SWITCH
0202
2P
0201
2P
0241
9P
3P
MAINS CORD
1505
2P
1502
2P
O SIDE I/O PANEL
SVHS
1328
CVBS (YELLOW)
LEFT (WHITE)
RIGHT (RED)
1326
1936
11P
HEADPHONE
1327
SC AUTO SCAVEM
1440
11P
1955
3P
1940
11P
G DC SHIFT (OPTIONAL)
0317
2P
SUB WOOFER
1951
5P
1205
1937
10P
8937
1948
3P
1955
3P
8955
1940
11P
8940
1952
3P
80P
SSB PANEL
1936
11P
3P
1737
3P
1738
8338
3P
1953
1693
1935
5P
1499
2P
1498
1933
4P
TUNER
1943
3P
compair interface
3x CINCH
2x SCART
1625
3P
1492
3P
1417
2P
LOT
1424
7P
2P
1498
10P
1682
3P
1681
6P
1680
1000
B SSB (SMALL SIGNAL BOARD)
80P
8680
1402
5P
4P
0207
3P
0236
3P
0272
5P
0200
10P
0205
C DW-PANEL (OPTIONAL)
0273
6P
N.C.
0201
10P
TUNER
H I/O 3rd SCART
1937
10P
WIRELESS TRANSMITTER CONN.
1690
10P
1201
10P
1992
3rd SCART 21P
1952
3P
1272
3P
1680
6P
1402
5P
I HORIZONTAL DAF PANEL
1417
2P
1418
2P
1497
1P
1491
2P
1419
1693
1492
3P
3P
1415
TX864B
1403
1P
1419
5P
1407
WIRELESS TRANSMITTER R

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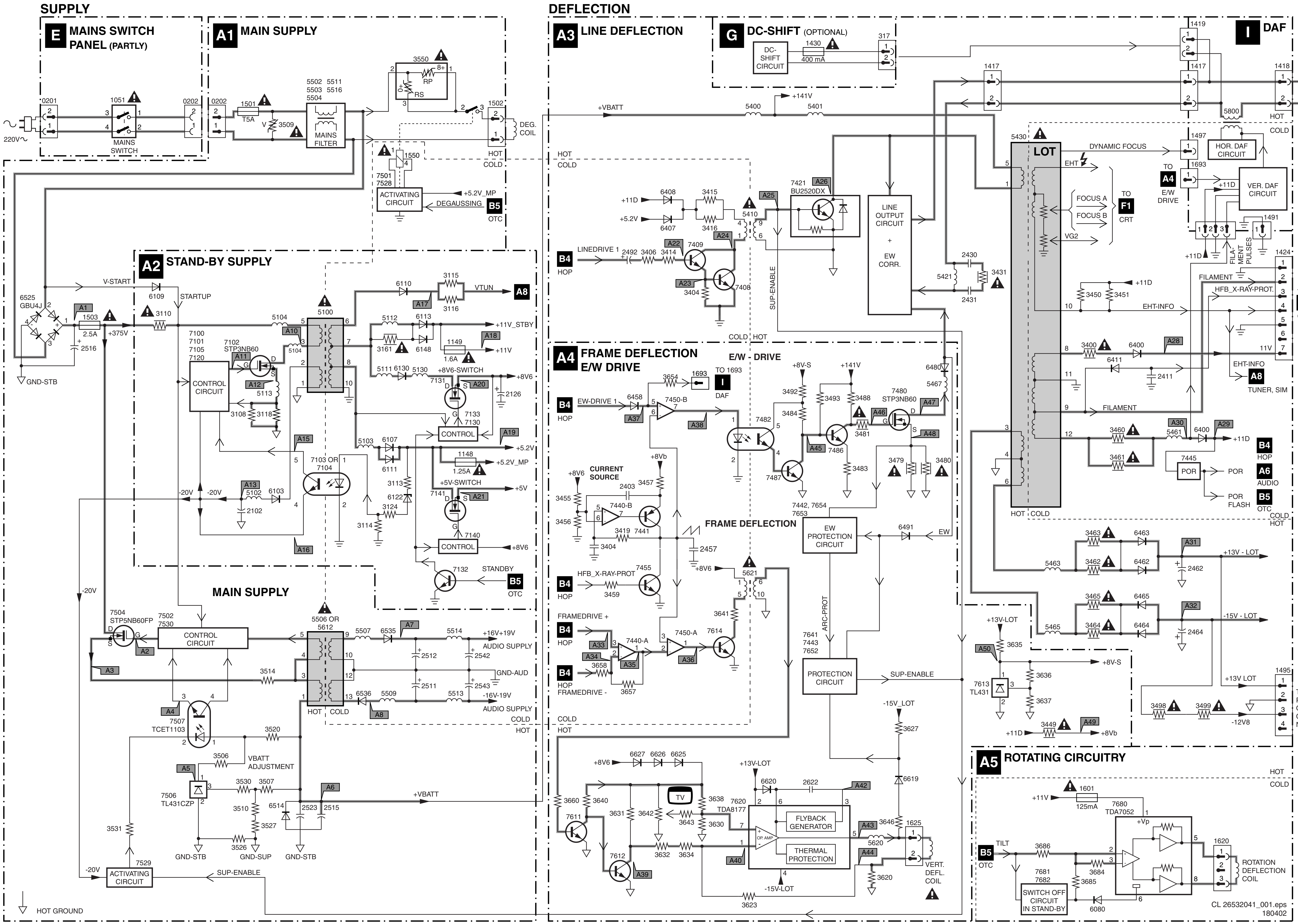
Block Diagram Supply and Deflection


SUPPLY
DEFLECTION
E MAINS SWITCH PANEL (PARTLY)
A1 MAIN SUPPLY
A2 STAND-BY SUPPLY
MAIN SUPPLY
A3 LINE DEFLECTION
G DC-SHIFT (OPTIONAL)
I DAF
A4 FRAME DEFLECTION E/W DRIVE
E/W - DRIVE
FRAME DEFLECTION
A5 ROTATING CIRCUITRY
220V~
0201
1051
MAINS SWITCH
0202
1501
T5A
3509
5502 5511
5503 5516
5504
MAINS FILTER
3550
RP
RS
1502
DEG. COIL
HOT
COLD
1550
7501
7528
ACTIVATING CIRCUIT
+5.2V_MP
DEGAUSSING
B5
OTC
6525
GBU4J
1503
2.5A
+375V
2516
GND-STB
V-START
6109
STARTUP
3110
7100
7101
7105
7120
CONTROL CIRCUIT
7102
STP3NB60
5104
5113
3108
3118
5100
6110
3115
3116
VTUN
A8
5112
6113
+11V_STBY
3161
6148
1149
1.6A
+11V
5111 6130 5130
+8V6-SWITCH
7131
+8V6
2126
CONTROL
7133
7130
5103
6107
6111
1148
1.25A
+5.2V
+5.2V_MP
7103 OR 7104
3113
6122
+5V-SWITCH
+5V
7141
3124
3114
7140
+8V6
-20V
5102
6103
2102
7132
STANDBY
B5
OTC
7504
STP5NB60FP
7502
7530
CONTROL CIRCUIT
5506 OR 5612
5507
6535
5514
+16V+19V
AUDIO SUPPLY
2512
2542
3514
GND-AUD
2511
2543
6536
5509
5513
-16V-19V
AUDIO SUPPLY
7507
TCET1103
3520
3506
VBATT ADJUSTMENT
7506
TL431CZP
3530 3507
3510
3527
6514
2523
2515
+VBATT
3526
GND-STB
GND-SUP
GND-STB
3531
7529
ACTIVATING CIRCUIT
SUP-ENABLE
HOT GROUND
A1 A2 A3 A4 A5 A6 A7 A8 A10 A11 A12 A13 A15 A16 A17 A18 A19 A20 A21
+VBATT
5400
+141V
5401
6408
3415
+11D
+5.2V
6407
3416
5410
7421
BU2520DX
LINE OUTPUT CIRCUIT
+
EW CORR.
B4
HOP
LINEDRIVE 1
2492 3406 3414
7409
3404
7408
SUP-ENABLE
COLD HOT
DC-SHIFT CIRCUIT
1430
400 mA
317
1417
1419
1418
LINE DEFLECTION COIL
5800
5430
LOT
DYNAMIC FOCUS
EHT
FOCUS A
FOCUS B
VG2
TO F1 CRT
1497
HOR. DAF CIRCUIT
1693
TO A4 E/W DRIVE
VER. DAF CIRCUIT
1491
FILAMENT PULSES
1424
TO 1224 F CRT
2430
2431
5421
3431
3450
3451
FILAMENT
HFB_X-RAY-PROT.
EHT-INFO
3400
6400
6411
2411
11V
EHT-INFO
A8
TUNER, SIM
3460
5461
6400
3461
+11D
B4 HOP
7445
POR
POR
A6 AUDIO
POR FLASH
B5 OTC
3463
6463
3462
6462
5463
+13V - LOT
2462
3465
6465
3464
6464
5465
-15V - LOT
2464
1495
+13V LOT
TO PANEL ON CRT NECK
3498
3499
-12V8
3654
1693
TO 1693
DAF
EW-DRIVE 1
6458
7450-B
+8V-S
+141V
3492
3493
3488
7480
STP3NB60
6480
5467
3484
7482
3481
7486
3483
7487
3479
3480
CURRENT SOURCE
+8Vb
2403
3457
3455
7440-B
3456
3419
7441
3404
2457
7442, 7654
7653
EW PROTECTION CIRCUIT
6491
EW
HFB_X-RAY-PROT
7455
3459
5621
FRAMEDRIVE +
7440-A
7450-A
7614
3641
3658
3657
FRAMEDRIVE -
ARC-PROT
7641
7443
7652
PROTECTION CIRCUIT
SUP-ENABLE
+13V-LOT
3635
+8V-S
7613
TL431
3636
3637
3449
+11D
+8Vb
-15V_LOT
3627
6619
+8V6
6627 6626 6625
3660 3640
7611
3631 3642
TV
3643
3638
TDA8177
3630
7620
6620
2622
FLYBACK GENERATOR
OP AMP
THERMAL PROTECTION
3646
1625
5620
VERT. DEFL. COIL
3620
7612
3632 3634
3623
-15V-LOT
A22 A23 A24 A25 A26 A28 A29 A30 A31 A32 A33 A34 A35 A36 A37 A38 A39 A40 A42 A43 A44 A45 A46 A47 A48 A49 A50
+11V
1601
125mA
7680
TDA7052
+Vp
1620
ROTATION DEFLECTION COIL
TILT
3686
3684
3685
7681
7682
SWITCH OFF CIRCUIT IN STAND-BY
6080
B5 OTC
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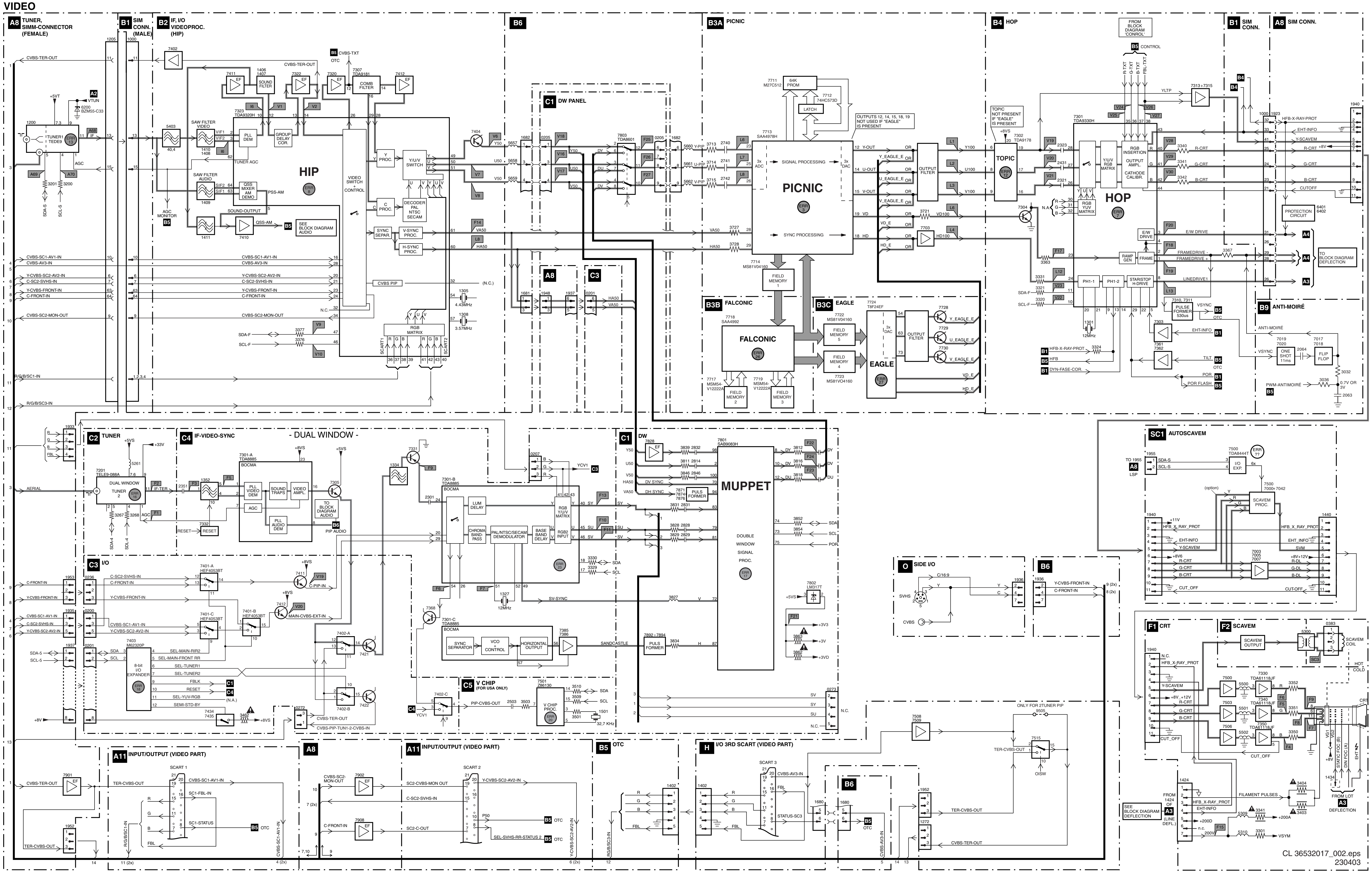
180402

Block Diagram Video


VIDEO
A8 TUNER, SIMM-CONNECTOR (FEMALE)
B1 SIM CONN. (MALE)
B2 IF, I/O VIDEOPROC. (HIP)
B6
B3A PICNIC
B4 HOP
B1 SIM CONN.
A8 SIM CONN.
C1 DW PANEL
HIP
PICNIC
TOPIC
HOP
B3B FALCONIC
FALCONIC
B3C EAGLE
EAGLE
B9 ANTI-MOIRÉ
C2 TUNER
C4 IF-VIDEO-SYNC
- DUAL WINDOW -
C1 DW
MUPPET
DOUBLE WINDOW SIGNAL PROC.
SC1 AUTOSCAVEM
C3 I/O
O SIDE I/O
B6
F1 CRT
F2 SCAVEM
C5 V CHIP (FOR USA ONLY)
A11 INPUT/OUTPUT (VIDEO PART)
A8
A11 INPUT/OUTPUT (VIDEO PART)
B5 OTC
H I/O 3RD SCART (VIDEO PART)
B6
TO BLOCK DIAGRAM DEFLECTION
SEE BLOCK DIAGRAM AUDIO
SEE BLOCK DIAGRAM DEFLECTION
FROM BLOCK DIAGRAM 'CONROL'
OUTPUTS 12, 14, 15, 18, 19 NOT USED IF "EAGLE" IS PRESENT
TOPIC NOT PRESENT IF "EAGLE" IS PRESENT
ONLY FOR 2TUNER PIP
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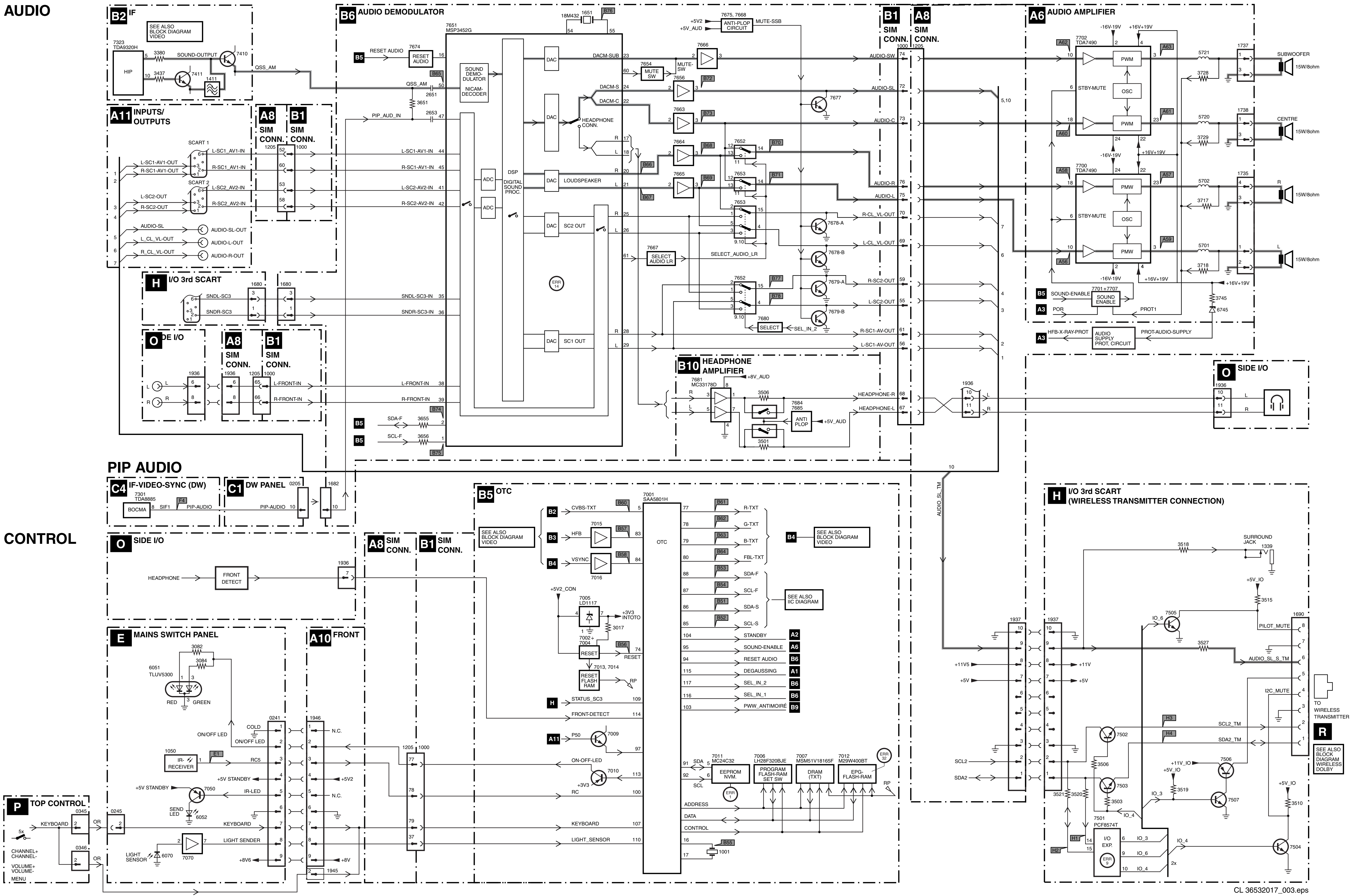
Block Diagram Audio 1 (Exclusive Wireless Audio Details)


AUDIO
B2 IF
SEE ALSO BLOCK DIAGRAM VIDEO
7323 TDA9320H
HIP
SOUND-OUTPUT
QSS_AM
B6 AUDIO DEMODULATOR
7651 MSP3452G
RESET AUDIO
SOUND DEMODULATOR
NICAM-DECODER
DSP DIGITAL SOUND PROC.
ADC
DAC
DACM-SUB
DACM-S
DACM-C
HEADPHONE CONN.
LOUDSPEAKER
SC2 OUT
SC1 OUT
PIP_AUD_IN
ANTI-PLOP CIRCUIT
MUTE-SSB
MUTE-SW
SELECT AUDIO LR
SELECT_AUDIO_LR
SELECT
SEL_IN_2
A11 INPUTS/ OUTPUTS
SCART 1
SCART 2
L-SC1_AV1-IN
R-SC1_AV1-IN
L-SC2_AV2-IN
R-SC2_AV2-IN
L-SC1-AV1-OUT
R-SC1-AV1-OUT
L-SC2-OUT
R-SC2-OUT
AUDIO-SL
L_CL_VL-OUT
R_CL_VL-OUT
AUDIO-SL-OUT
AUDIO-L-OUT
AUDIO-R-OUT
A8 SIM CONN.
B1 SIM CONN.
H I/O 3rd SCART
SNDL-SC3
SNDR-SC3
SNDL-SC3-IN
SNDR-SC3-IN
O SIDE I/O
L-FRONT-IN
R-FRONT-IN
SDA-F
SCL-F
AUDIO-SW
AUDIO-SL
AUDIO-C
AUDIO-R
AUDIO-L
R-CL_VL-OUT
L-CL_VL-OUT
R-SC2-OUT
L-SC2-OUT
R-SC1-AV-OUT
L-SC1-AV-OUT
B10 HEADPHONE AMPLIFIER
7681 MC33178D
+8V_AUD
ANTI PLOP
+5V_AUD
HEADPHONE-R
HEADPHONE-L
A6 AUDIO AMPLIFIER
7702 TDA7490
7700 TDA7490
PWM
OSC
STBY-MUTE
SUBWOOFER
CENTRE
15W/8ohm
SOUND-ENABLE
SOUND ENABLE
POR
PROT1
HFB-X-RAY-PROT
AUDIO SUPPLY PROT. CIRCUIT
PROT-AUDIO-SUPPLY
+16V+19V
-16V-19V
PIP AUDIO
C4 IF-VIDEO-SYNC (DW)
7301 TDA8885
BOCMA
SIF1
PIP-AUDIO
C1 DW PANEL
CONTROL
O SIDE I/O
HEADPHONE
FRONT DETECT
A8 SIM CONN.
B1 SIM CONN.
B5 OTC
7001 SAA5801H
OTC
SEE ALSO BLOCK DIAGRAM VIDEO
CVBS-TXT
HFB
VSYNC
R-TXT
G-TXT
B-TXT
FBL-TXT
SDA-F
SCL-F
SDA-S
SCL-S
SEE ALSO IIC DIAGRAM
STANDBY
SOUND-ENABLE
RESET AUDIO
DEGAUSSING
SEL_IN_2
SEL_IN_1
PWW_ANTIMOIRÉ
7005 LD1117
+3V3 INTOTO
RESET
RESET FLASH RAM
STATUS_SC3
FRONT-DETECT
P50
ON-OFF-LED
RC
KEYBOARD
LIGHT_SENSOR
7011 MC24C32 EEPROM NVM.
7006 LH28F320BJE PROGRAM FLASH-RAM SET SW
7007 MSM51V18165F DRAM (TXT)
7012 M29W400BT EPG-FLASH-RAM
ADDRESS
DATA
CONTROL
E MAINS SWITCH PANEL
6051 TLUV5300
RED
GREEN
COLD
ON/OFF LED
IR-RECEIVER
+5V STANDBY
IR-LED
SEND LED
LIGHT SENSOR
LIGHT SENDER
A10 FRONT
N.C.
P TOP CONTROL
KEYBOARD
CHANNEL+
CHANNEL-
VOLUME+
VOLUME-
MENU
H I/O 3rd SCART (WIRELESS TRANSMITTER CONNECTION)
SURROUND JACK
PILOT_MUTE
AUDIO_SL_S_TM
I2C_MUTE
SCL2_TM
SDA2_TM
7501 PCF8574T
I/O EXP.
IO_3
IO_4
IO_6
TO WIRELESS TRANSMITTER
R
SEE ALSO BLOCK DIAGRAM WIRELESS DOLBY
AUDIO_SL_TM
SCL2
SDA2
+11V
+5V

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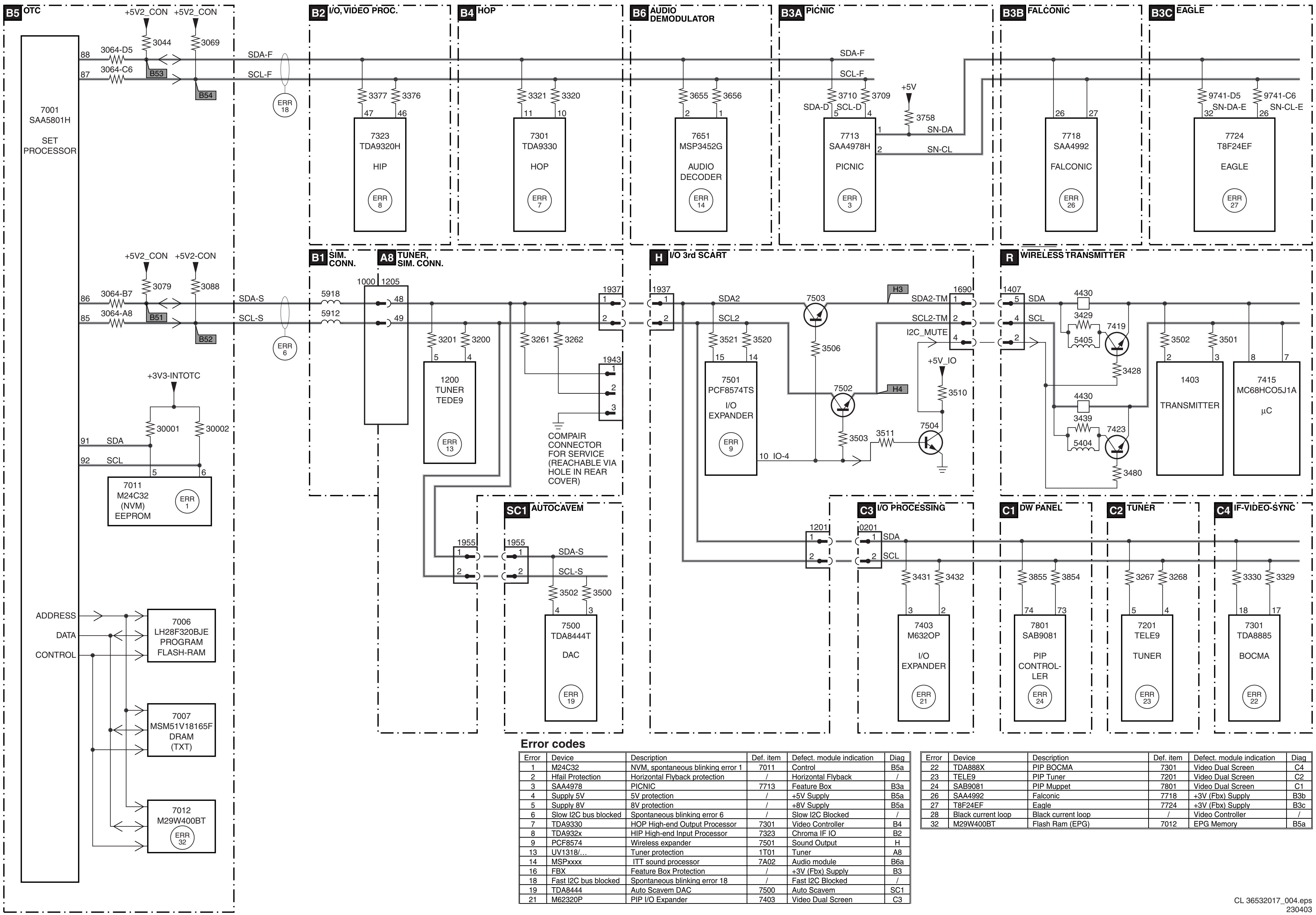
230403

I2C IC's overview

IIC


B5 OTC
+5V2_CON
+5V2_CON
3044
3069
88
3064-D5
87
3064-C6
B53
B54
SDA-F
SCL-F
ERR 18
7001
SAA5801H
SET PROCESSOR
B2 I/O, VIDEO PROC.
3377
3376
47
46
7323
TDA9320H
HIP
ERR 8
B4 HOP
3321
3320
11
10
7301
TDA9330
HOP
ERR 7
B6 AUDIO DEMODULATOR
3655
3656
2
1
7651
MSP3452G
AUDIO DECODER
ERR 14
B3A PICNIC
SDA-F
SCL-F
3710
3709
SDA-D
SCL-D
5
4
+5V
3758
SN-DA
SN-CL
1
2
7713
SAA4978H
PICNIC
ERR 3
B3B FALCONIC
26
27
7718
SAA4992
FALCONIC
ERR 26
B3C EAGLE
9741-D5
9741-C6
SN-DA-E
SN-CL-E
32
26
7724
T8F24EF
EAGLE
ERR 27
+5V2_CON
+5V2-CON
3079
3088
86
3064-B7
85
3064-A8
B51
B52
SDA-S
SCL-S
ERR 6
+3V3-INTOTC
30001
30002
91
SDA
92
SCL
5
6
7011
M24C32
(NVM)
EEPROM
ERR 1
B1 SIM. CONN.
5918
5912
A8 TUNER, SIM. CONN.
1000
1205
48
49
3201
3200
5
4
1200
TUNER
TEDE9
ERR 13
3261
3262
1937
1943
COMPAIR CONNECTOR FOR SERVICE (REACHABLE VIA HOLE IN REAR COVER)
H I/O 3rd SCART
1937
SDA2
SCL2
3521
3520
15
14
7501
PCF8574TS
I/O EXPANDER
ERR 9
10 IO-4
7503
3506
7502
3503
3511
7504
H3
H4
SDA2-TM
SCL2-TM
I2C_MUTE
+5V_IO
3510
1690
R WIRELESS TRANSMITTER
1407
SDA
SCL
4430
3429
5405
7419
3428
4430
3439
5404
7423
3480
3502
3501
2
3
8
7
1403
TRANSMITTER
7415
MC68HCO5J1A
µC
SC1 AUTOCAVEM
1955
1955
SDA-S
SCL-S
3502
3500
4
3
7500
TDA8444T
DAC
ERR 19
C3 I/O PROCESSING
1201
0201
SDA
SCL
3431
3432
3
2
7403
M632OP
I/O EXPANDER
ERR 21
C1 DW PANEL
3855
3854
74
73
7801
SAB9081
PIP CONTROL-LER
ERR 24
C2 TUNER
3267
3268
5
4
7201
TELE9
TUNER
ERR 23
C4 IF-VIDEO-SYNC
3330
3329
18
17
7301
TDA8885
BOCMA
ERR 22
ADDRESS
DATA
CONTROL
7006
LH28F320BJE
PROGRAM
FLASH-RAM
7007
MSM51V18165F
DRAM
(TXT)
7012
M29W400BT
ERR 32

Error codes

Error	Device	Description	Def. item	Defect. module indication	Diag
1	M24C32	NVM, spontaneous blinking error 1	7011	Control	B5a
2	Hfail Protection	Horizontal Flyback protection	/	Horizontal Flyback	/
3	SAA4978	PICNIC	7713	Feature Box	B3a
4	Supply 5V	5V protection	/	+5V Supply	B5a
5	Supply 8V	8V protection	/	+8V Supply	B5a
6	Slow I2C bus blocked	Spontaneous blinking error 6	/	Slow I2C Blocked	/
7	TDA9330	HOP High-end Output Processor	7301	Video Controller	B4
8	TDA932x	HIP High-end Input Processor	7323	Chroma IF IO	B2
9	PCF8574	Wireless expander	7501	Sound Output	H
13	UV1318/…	Tuner protection	1T01	Tuner	A8
14	MSPxxxx	ITT sound processor	7A02	Audio module	B6a
16	FBX	Feature Box Protection	/	+3V (Fbx) Supply	B3
18	Fast I2C bus blocked	Spontaneous blinking error 18	/	Fast I2C Blocked	/
19	TDA8444	Auto Scavem DAC	7500	Auto Scavem	SC1
21	M62320P	PIP I/O Expander	7403	Video Dual Screen	C3

Error	Device	Description	Def. item	Defect. module indication	Diag
22	TDA888X	PIP BOCMA	7301	Video Dual Screen	C4
23	TELE9	PIP Tuner	7201	Video Dual Screen	C2
24	SAB9081	PIP Muppet	7801	Video Dual Screen	C1
26	SAA4992	Falconic	7718	+3V (Fbx) Supply	B3b
27	T8F24EF	Eagle	7724	+3V (Fbx) Supply	B3c
28	Black current loop	Black current loop	/	Video Controller	/
32	M29W400BT	Flash Ram (EPG)	7012	EPG Memory	B5a

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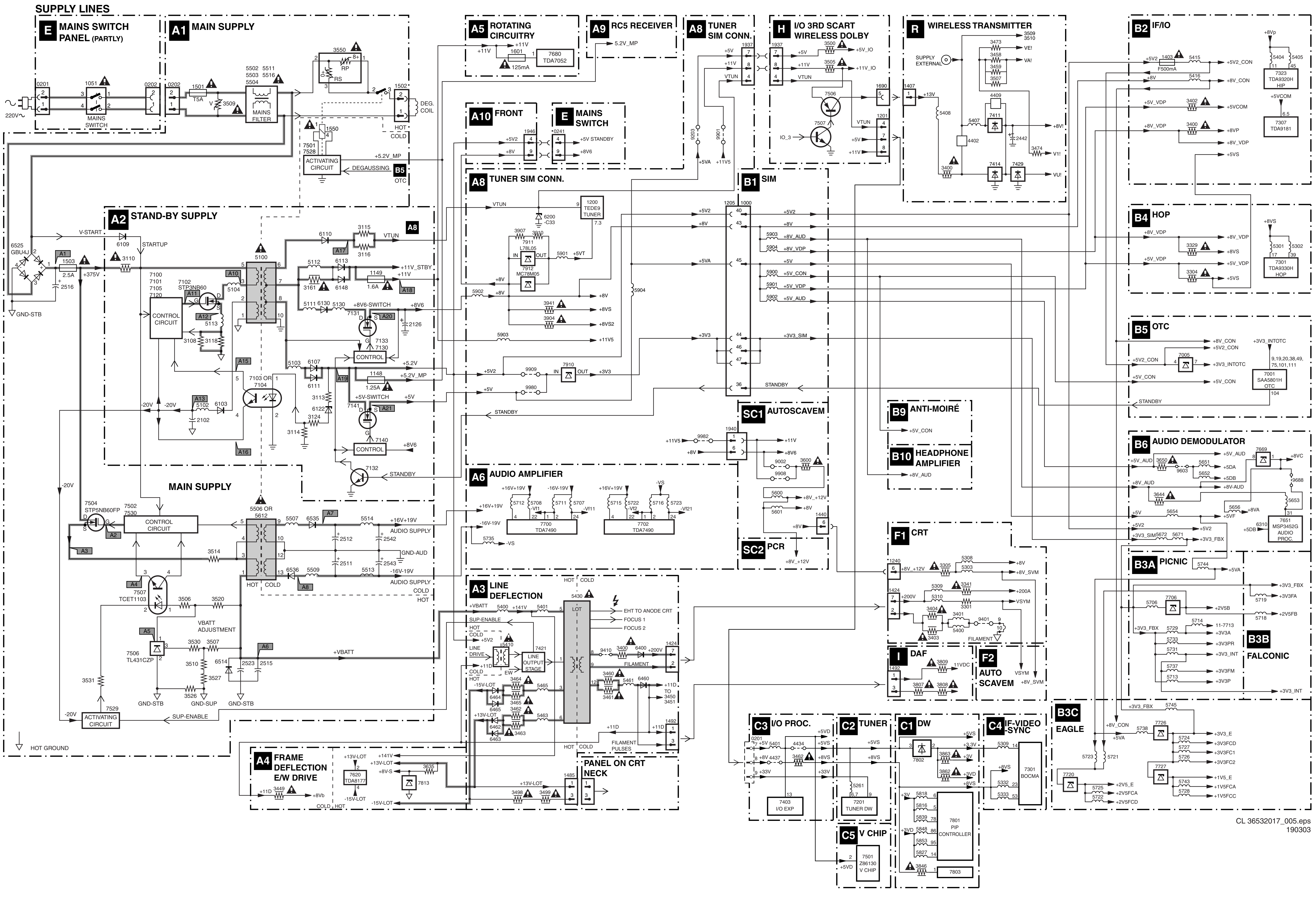
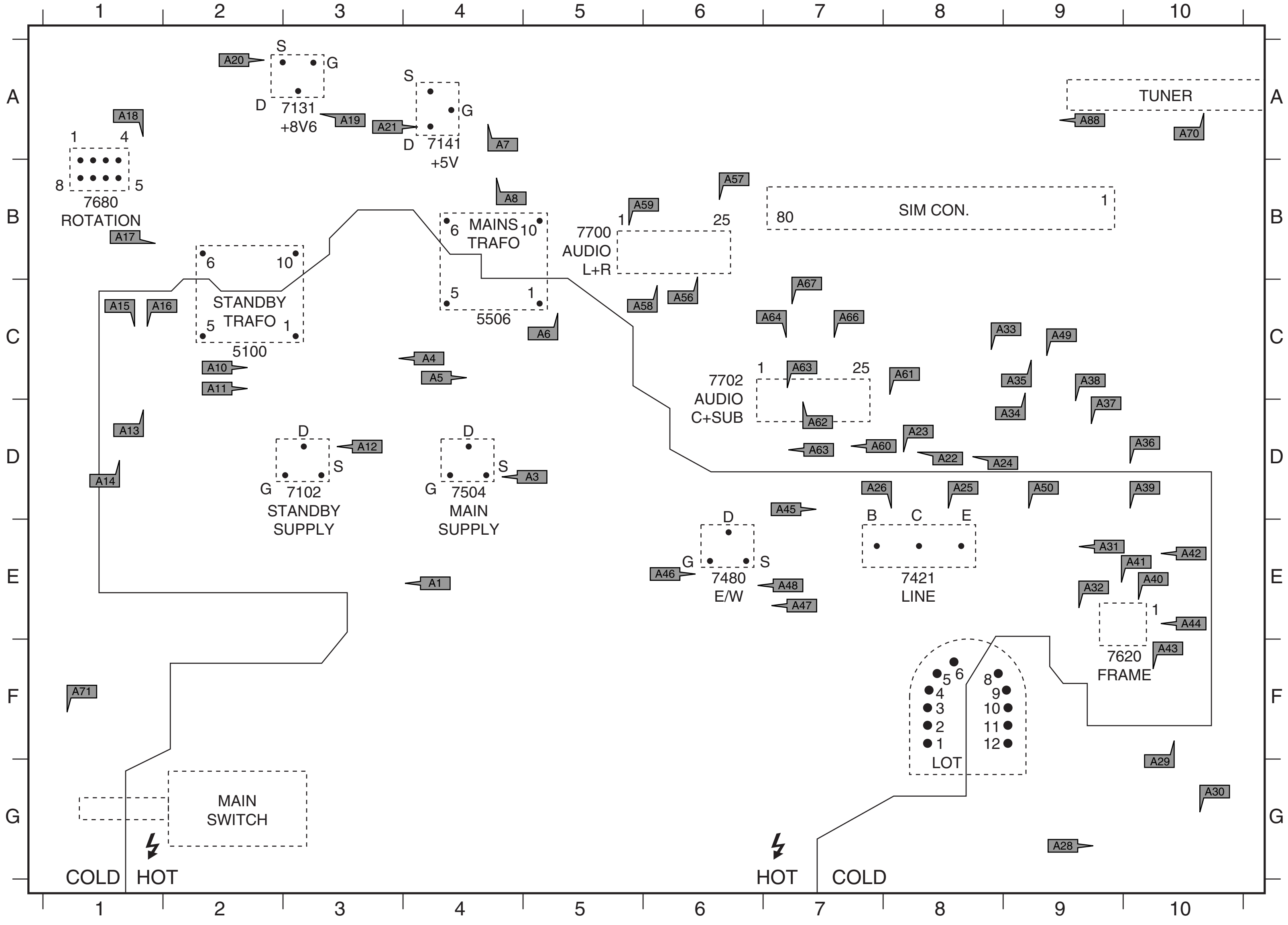
Supply Lines Overview

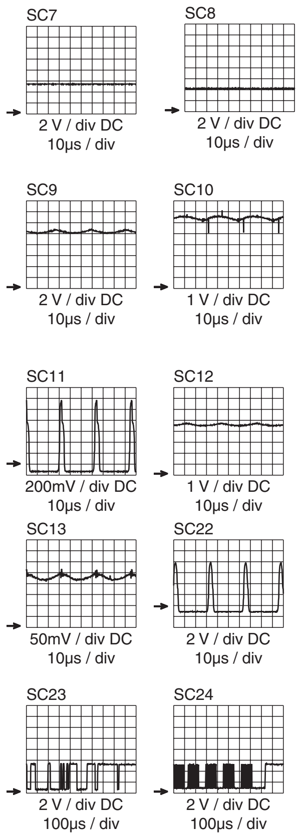

SUPPLY LINES
E MAINS SWITCH PANEL (PARTLY)
A1 MAIN SUPPLY
A5 ROTATING CIRCUITRY
A9 RC5 RECEIVER
A8 TUNER SIM CONN.
H I/O 3RD SCART WIRELESS DOLBY
R WIRELESS TRANSMITTER
B2 IF/IO
A10 FRONT
E MAINS SWITCH
A8 TUNER SIM CONN.
B1 SIM
A2 STAND-BY SUPPLY
B4 HOP
B5 OTC
SC1 AUTOSCAVEM
B9 ANTI-MOIRÉ
B10 HEADPHONE AMPLIFIER
B6 AUDIO DEMODULATOR
A6 AUDIO AMPLIFIER
MAIN SUPPLY
SC2 PCR
F1 CRT
B3A PICNIC
B3B FALCONIC
A3 LINE DEFLECTION
I DAF
F2 AUTO SCAVEM
A4 FRAME DEFLECTION E/W DRIVE
PANEL ON CRT NECK
C3 I/O PROC.
C2 TUNER
C1 DW
C4 IF-VIDEO -SYNC
B3C EAGLE
C5 V CHIP
220V~
MAINS SWITCH
MAINS FILTER
DEG. COIL
HOT
COLD
ACTIVATING CIRCUIT
DEGAUSSING
GND-STB
HOT GROUND
CONTROL CIRCUIT
STP3NB60
STP5NB60FP
TCET1103
TL431CZP
VBATT ADJUSTMENT
+VBATT
STANDBY
+5.2V_MP
+11V_STBY
+8V6
+5V
+3V3
AUDIO SUPPLY
GND-AUD
LINE OUTPUT STAGE
EHT TO ANODE CRT
FOCUS 1
FOCUS 2
FILAMENT
TDA7052
TDA7490
TDA8177
TEDE9 TUNER
TDA9320H HIP
TDA9181
TDA9330H HOP
SAA5801H OTC
MSP3452G AUDIO PROC.
BOCMA
PIP CONTROLLER
I/O EXP
TUNER DW
Z86130 V CHIP
CL 36532017_005.eps
190303

Testpoint Overview LSP and CRT Panel

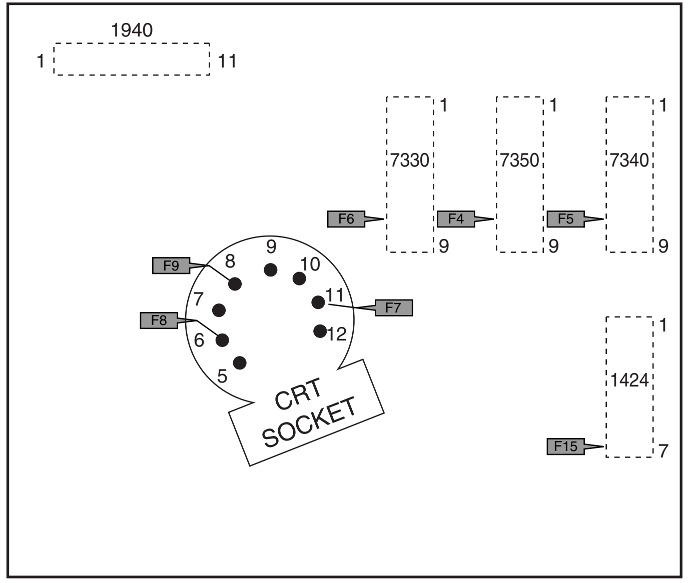
LSP COPPER TRACK SIDE


1 2 3 4 5 6 7 8 9 10
A B C D E F G
7131
+8V6
S G D
7141
+5V
TUNER
7680
ROTATION
1 4 8 5
MAINS TRAFO
6 10 5 1
5506
7700
AUDIO
L+R
1 25
SIM CON.
80 1
STANDBY TRAFO
6 10 5 1
5100
7702
AUDIO
C+SUB
1 25
7102
STANDBY
SUPPLY
7504
MAIN
SUPPLY
7480
E/W
7421
LINE
B C E
7620
FRAME
LOT
1 2 3 4 5 6 8 9 10 11 12
MAIN
SWITCH
COLD HOT HOT COLD
A1 A3 A4 A5 A6 A7 A8 A10 A11 A12 A13 A14 A15 A16 A17 A18 A19 A20 A21 A22 A23 A24 A25 A26 A28 A29 A30 A31 A32 A33 A34 A35 A36 A37 A38 A39 A40 A41 A42 A43 A44 A45 A46 A47 A48 A49 A50 A56 A57 A58 A59 A60 A61 A62 A63 A64 A66 A67 A70 A71 A88

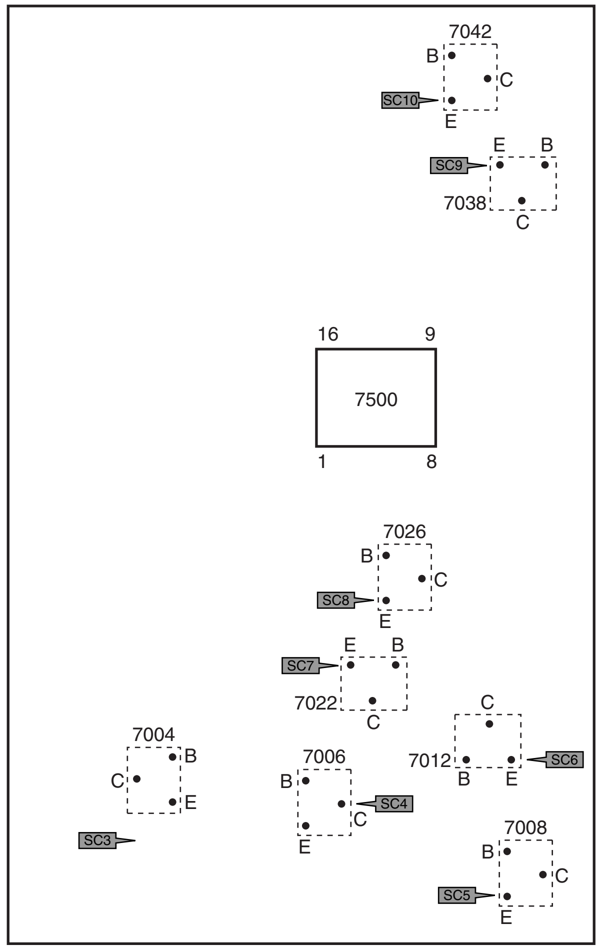
A1	E4	A58	C6
A3	D4	A59	B5
A4	C4	A60	D7
A5	C4	A61	C8
A6	C5	A62	D7
A7	A4	A63	D7
A8	B4	A64	C7
A10	C2	A66	C7
A11	C2	A67	C7
A12	D3	A70	A10
A13	D1	A71	F1
A14	D1	A88	A9
A15	C1		
A16	C1		
A17	B1		
A18	A1		
A19	A3		
A20	A2		
A21	A3		
A22	D8		
A23	D8		
A24	D8		
A25	D8		
A26	D7		
A28	G9		
A29	G10		
A30	G10		
A31	E9		
A32	E9		
A33	C8		
A34	D9		
A35	C9		
A36	D10		
A37	D9		
A38	C9		
A39	D10		
A40	E10		
A41	E10		
A42	E10		
A43	F10		
A44	E10		
A45	D7		
A46	E6		
A47	E7		
A48	E7		
A49	C9		
A50	D9		
A56	C6		
A57	B6		

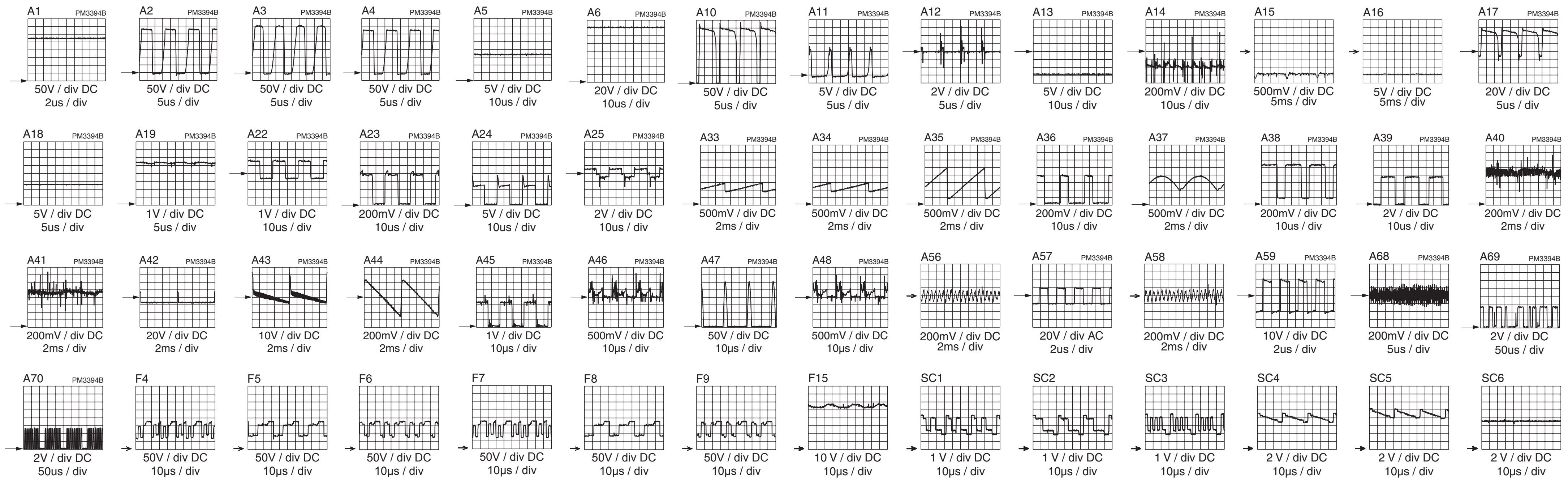


CRT PANEL (COPPER TRACK SIDE)


1940
1 11
7330
7350
7340
1 9
F6 F4 F5
F9 F8 F7
CRT SOCKET
5 6 7 8 9 10 11 12
1424
1 7
F15

AUTO SCAVEM PANEL (COPPER TRACK SIDE)


7042
B C E
SC10
SC9
E B C
7038
7500
16 9 1 8
7026
B C E
SC8
SC7
E B C
7022
7004
B C E
SC3
7006
B C E
SC4
7012
C B E
SC6
7008
B C E
SC5



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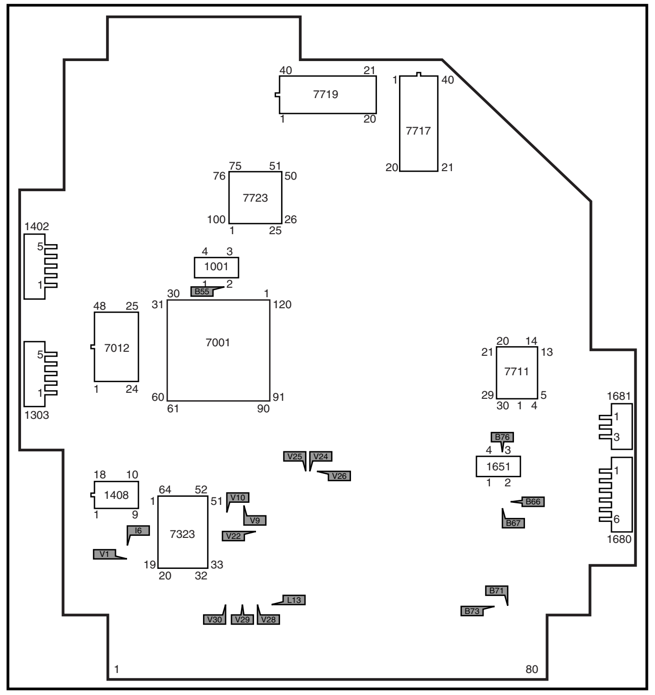
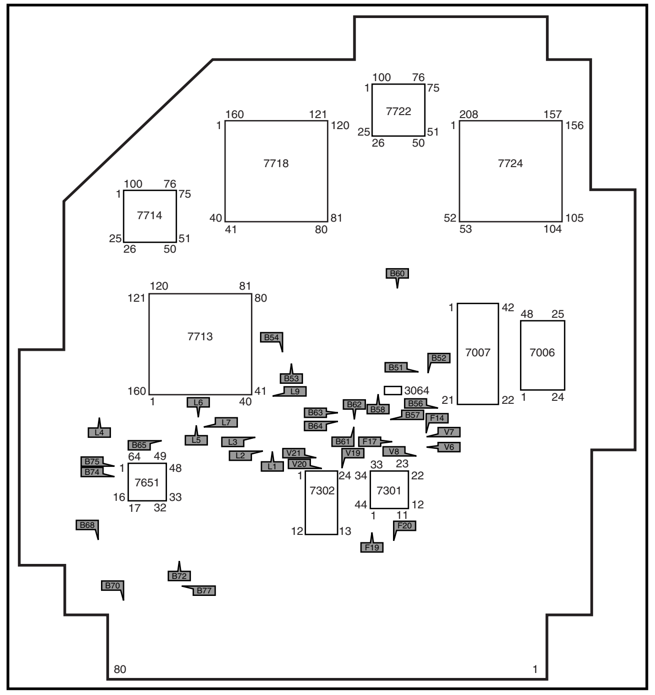
190303

Testpoint Overview Small Signal Board

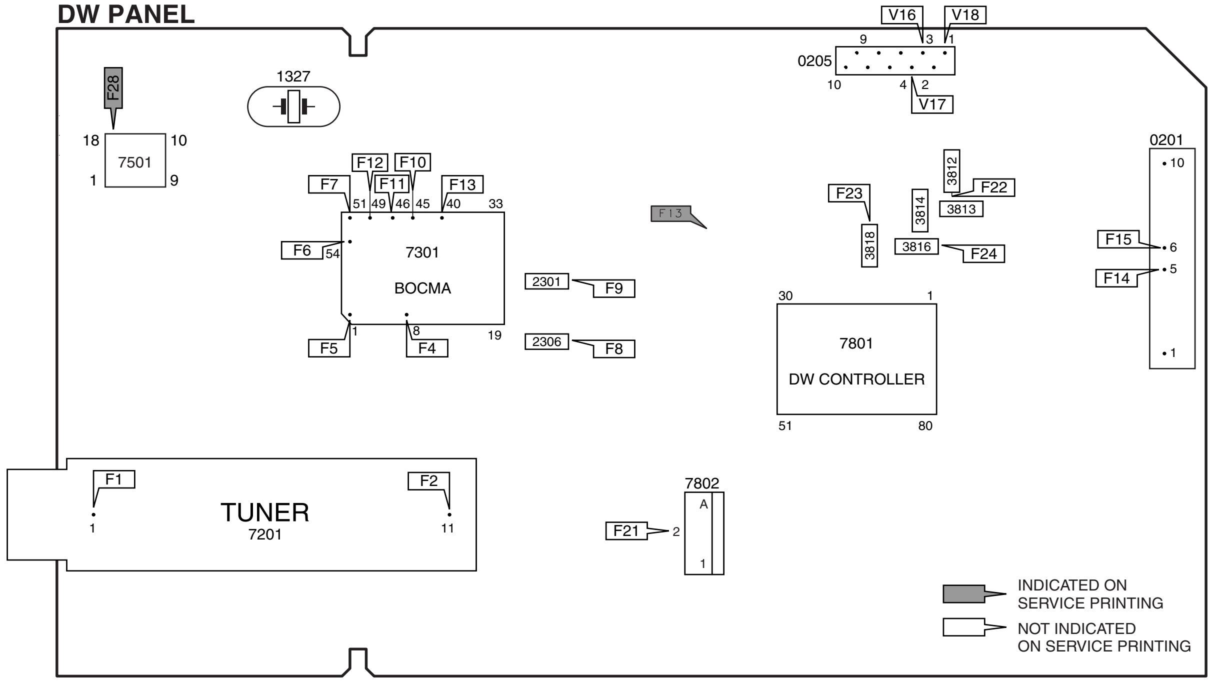
SSB SIDE A

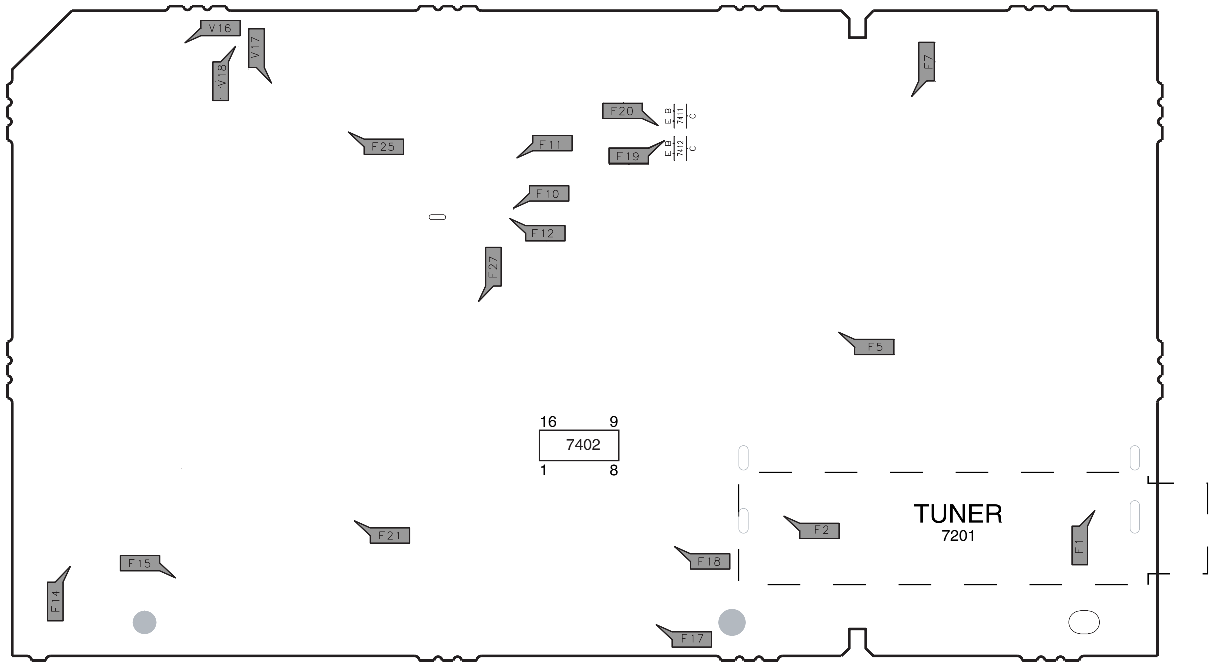

7719
7717
7723
1402
1001
7012
7001
7711
1303
1681
1651
1408
7323
1680
1
80

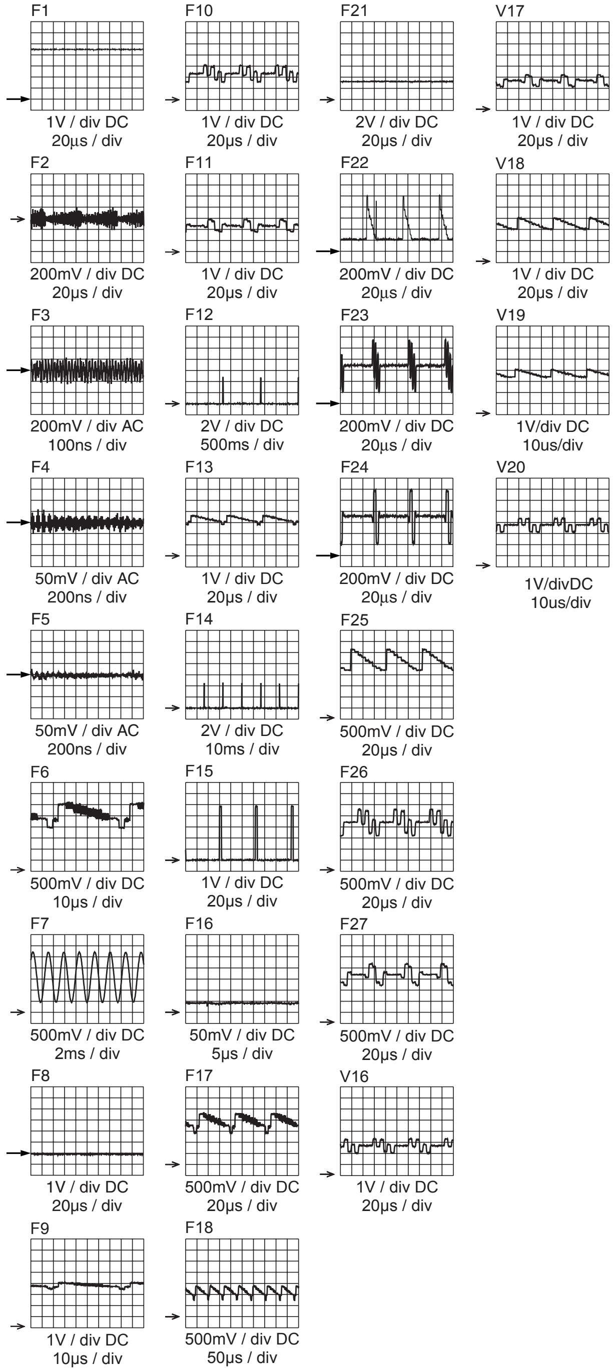
SSB SIDE Z

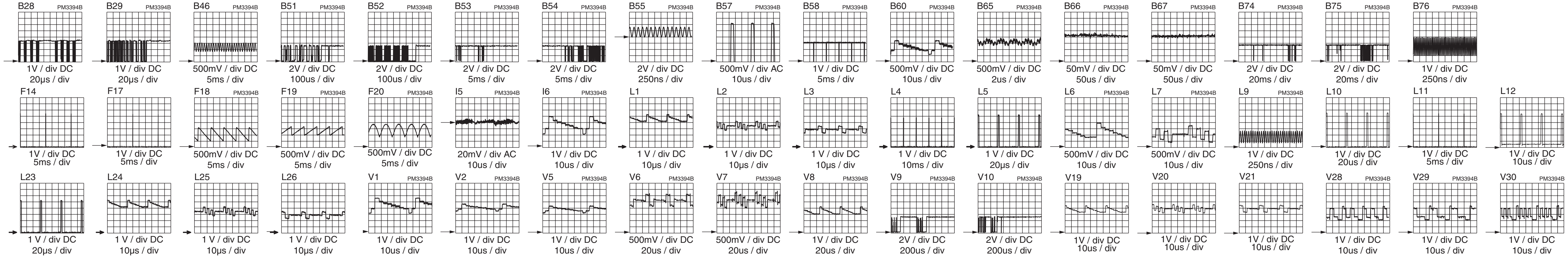

7722
7718
7724
7714
7713
7007
7006
3064
7651
7302
7301
80
1

DW PANEL


V16
V18
0205
V17
1327
F28
7501
F12
F10
F7
F11
F13
F6
7301
BOCMA
F5
F4
2301
F9
2306
F8
F23
3818
3814
3812
F22
3813
3816
F24
0201
F15
F14
7801
DW CONTROLLER
F1
TUNER
7201
F2
7802
F21
INDICATED ON SERVICE PRINTING
NOT INDICATED ON SERVICE PRINTING


V16
V18
V17
F7
F20
F25
F11
F19
F10
F12
F27
F5
7402
TUNER
7201
F2
F1
F21
F18
F15
F14
F17





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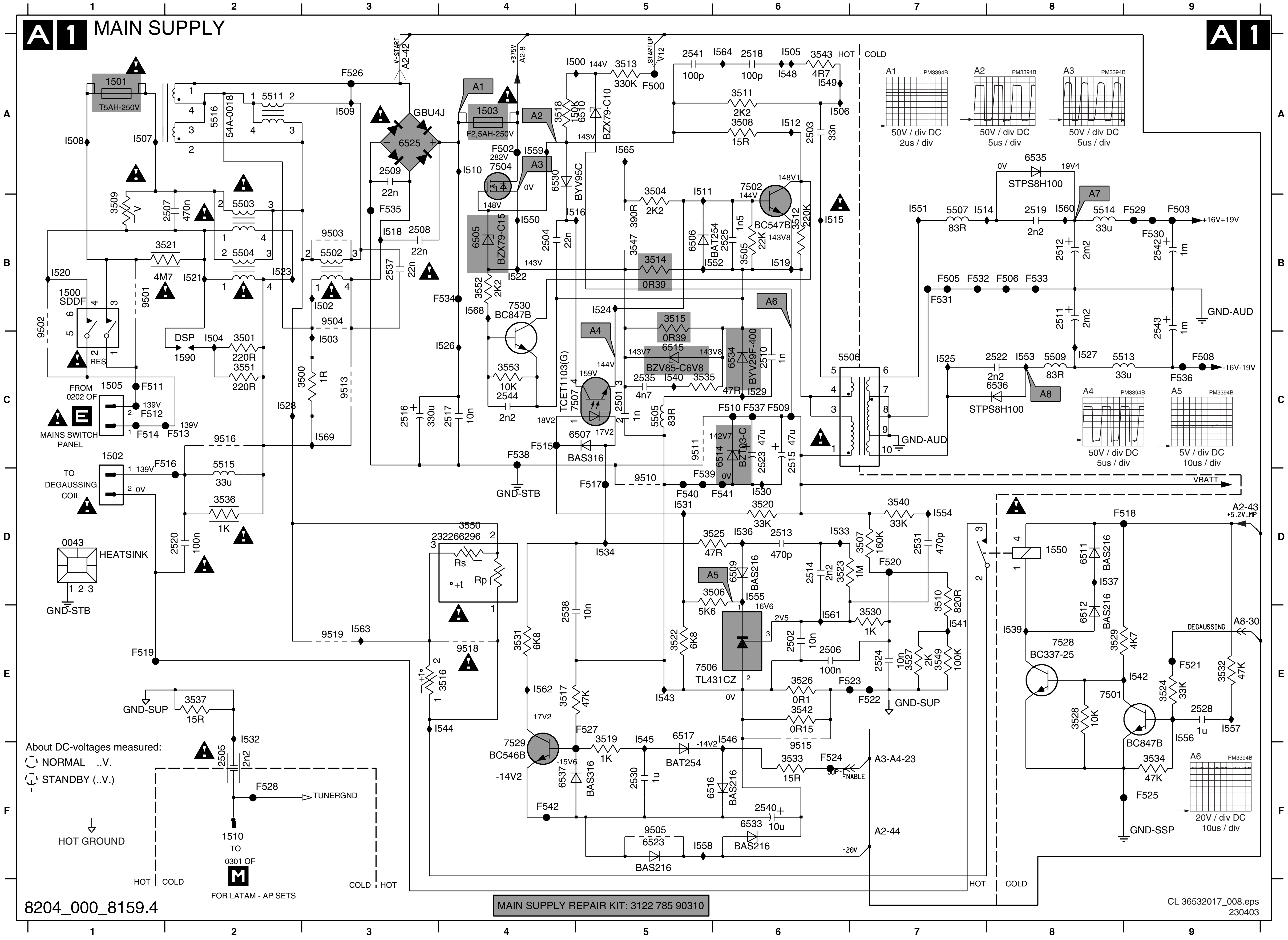
7. Circuit Diagrams and PWB Layouts

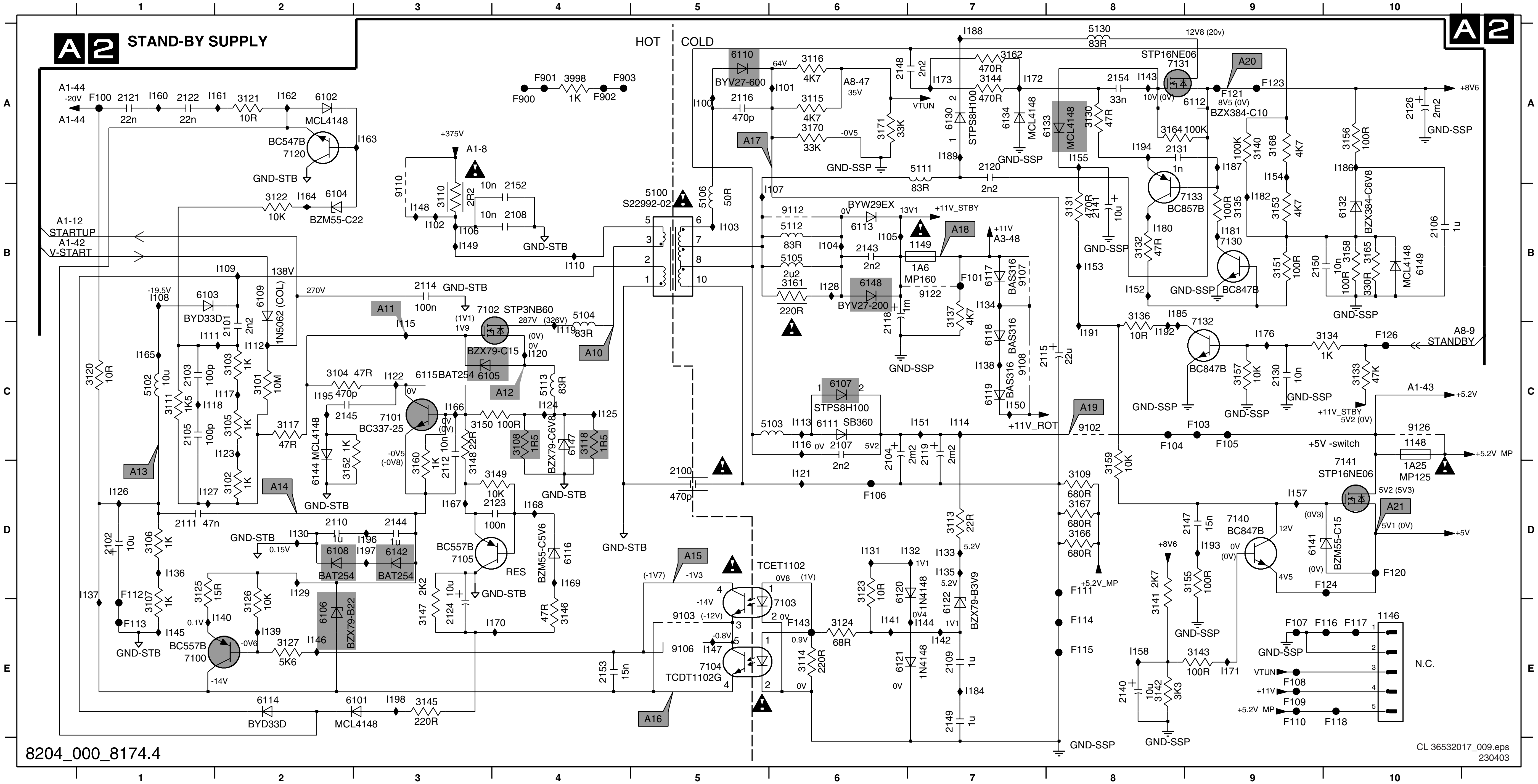
Large Signal Panel: Main Supply


A1 MAIN SUPPLY
1501 T5AH-250V
1503 F2,5AH-250V
6525 GBU4J
7504
7502 BC547B
7530 BC847B
7507 TCET1103(G)
7506 TL431CZ
7529 BC546B
7528 BC337-25
7501 BC847B
6535 STPS8H100
6536 STPS8H100
6505 BZX79-C15
6510 BZX79-C10
6530 BYV95C
6534 BYV29F-400
6515 BZV85-C6V8
6514 BZT03-C
5506
1550
1500 SDDF
DSP 1590
FROM 0202 OF
MAINS SWITCH PANEL
E
TO DEGAUSSING COIL
0043 HEATSINK
GND-STB
GND-SUP
GND-AUD
GND-SSP
HOT GROUND
1510 TO 0301 OF
M
FOR LATAM - AP SETS
TUNERGND
+16V+19V
-16V-19V
VBATT
A2-43 +5.2V_MP
A8-30 DEGAUSSING
A3-A4-23
A2-44
About DC-voltages measured:
NORMAL ..V.
STANDBY (..V.)
HOT COLD
MAIN SUPPLY REPAIR KIT: 3122 785 90310
8204_000_8159.4
CL 36532017_008.eps
230403
A1 50V / div DC 2us / div
A2 50V / div DC 5us / div
A3 50V / div DC 5us / div
A4 50V / div DC 5us / div
A5 5V / div DC 10us / div
A6 20V / div DC 10us / div
1 2 3 4 5 6 7 8 9
A B C D E F

0043	D1	3520	D6	7507	C5	I507	A1
1500	B1	3521	B2	7528	E8	I508	A1
1501	A1	3522	E5	7529	F4	I509	A3
1502	C1	3523	D6	7530	B4	I510	A4
1503	A4	3524	E9	9501	B1	I511	A5
1505	C1	3525	D6	9502	B1	I512	A6
1510	F2	3526	E6	9503	B3	I514	B7
1550	D8	3527	E7	9504	B3	I515	B6
1590	C2	3528	E8	9505	F5	I516	B5
2501	C5	3529	E8	9510	D5	I518	B3
2502	E6	3530	E7	9511	C5	I519	B6
2503	A6	3531	E4	9513	C3	I520	B1
2504	B4	3532	E9	9515	F6	I521	B2
2505	F2	3533	F6	9516	C2	I522	B4
2506	E6	3534	F9	9518	E4	I523	B2
2507	B2	3535	C5	9519	E3	I524	B5
2508	B3	3536	D2	F500	A5	I525	C7
2509	A3	3537	E2	F502	A4	I526	C4
2510	C6	3540	D7	F503	B9	I527	C8
2511	B8	3542	E6	F505	B7	I528	C2
2512	B8	3543	A6	F506	B8	I529	C6
2513	D6	3547	B5	F508	C9	I530	D6
2514	D6	3549	E7	F509	C6	I531	D5
2515	C6	3550	D4	F510	C6	I532	E2
2516	C3	3551	C2	F511	C1	I533	D6
2517	C4	3552	B4	F512	C1	I534	D5
2518	A6	3553	C4	F513	C2	I536	D6
2519	B8	5502	B3	F514	C1	I537	D8
2520	D2	5503	B2	F515	C4	I539	E8
2522	C8	5504	B2	F516	C2	I540	C5
2523	C6	5505	C5	F517	D5	I541	E7
2524	E7	5506	C6	F518	D9	I542	E9
2525	B6	5507	B7	F519	E1	I543	E5
2528	E9	5509	C8	F520	D7	I544	E4
2530	F5	5511	A2	F521	E9	I545	E5
2531	D7	5513	C9	F522	E7	I546	E6
2535	C5	5514	B8	F523	E7	I548	A6
2537	B3	5515	C2	F524	F6	I549	A6
2538	E4	5516	A2	F525	F9	I550	B4
2540	F6	6505	B4	F526	A3	I551	B7
2541	A5	6506	B5	F527	E5	I552	B6
2542	B9	6507	C5	F528	F2	I553	C8
2543	B9	6509	D6	F529	B9	I554	D7
2544	C4	6510	A5	F530	B9	I555	D6
3500	C3	6511	D8	F531	B7	I556	E9
3501	C2	6512	E8	F532	B7	I557	E9
3504	B5	6514	C6	F533	B8	I558	F5
3505	B6	6515	C5	F534	B4	I559	A4
3506	D6	6516	F6	F535	B3	I560	B8
3507	D7	6517	E5	F536	C9	I561	E6
3508	A6	6523	F5	F537	C6	I562	E4
3509	B1	6525	A3	F538	C4	I563	E3
3510	D7	6530	A4	F539	D5	I564	A6
3511	A6	6533	F6	F540	D5	I565	A5
3512	B6	6534	C6	F541	D6	I568	B4
3513	A5	6535	A8	F542	F4	I569	C3
3514	B5	6536	C8	I500	A5		
3515	B5	6537	F4	I502	B3		
3516	E4	7501	E8	I503	C3		
3517	E4	7502	A6	I504	C2		
3518	A4	7504	A4	I505	A6		
3519	F5	7506	E5	I506	A6		

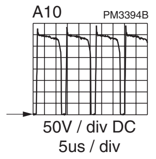
Large Signal Panel: Stand-by Supply

1146 E10	2109 E7	2123 D4	2149 E7	3108 C4	3122 B2	3136 B8	3150 C3	3164 A8	5105 B6	6107 C6	6119 C7	6148 B6	7133 B9	F100 A1	F113 E1	F900 A4	I108 B1	I120 C4	I132 D7	I144 E7	I157 D9	I170 E4	I188 A7
1148 C10	2110 D2	2124 E3	2150 B9	3109 D8	3123 D6	3137 B7	3151 B9	3165 B10	5106 B5	6108 D2	6120 D6	6149 B10	7140 D9	F101 B7	F114 E8	F901 A4	I109 B2	I121 D6	I133 D7	I145 E1	I158 E8	I171 E9	I189 A7
1149 B7	2111 D1	2126 A10	2152 A4	3110 B3	3124 E6	3140 A9	3152 D2	3166 D8	5111 A7	6109 B2	6121 E6	7100 E1	7141 D10	F103 C9	F115 E8	F902 A4	I110 B4	I122 C3	I134 B7	I146 E2	I160 A1	I172 A7	I191 C8
2100 D5	2112 D3	2130 C9	2153 E4	3111 C1	3125 D1	3141 E8	3153 B9	3167 D8	5112 B6	6110 A5	6122 E7	7101 C3	9102 C8	F104 C8	F116 E10	F903 A4	I111 C1	I123 C2	I135 D7	I147 E5	I161 A2	I173 A7	I192 C8
2101 C2	2114 B3	2131 A8	2154 A8	3113 D7	3126 E2	3142 E8	3155 D9	3168 A9	5113 C4	6111 C6	6130 A7	7102 B3	9103 E5	F105 C9	F117 E10	I100 A5	I112 C2	I124 C4	I136 D1	I148 B3	I162 A2	I176 C9	I193 D9
2102 D1	2115 C8	2140 E8	3101 C2	3114 E6	3127 E2	3143 E9	3156 A10	3170 A6	5130 A8	6112 A9	6132 B10	7103 E6	9106 E5	F106 D6	F118 E10	I101 A6	I113 C6	I125 C4	I137 D1	I149 B3	I163 A3	I180 B8	I194 A8
2103 C1	2116 A5	2141 B8	3102 D2	3115 A6	3130 A8	3144 A7	3157 C9	3171 A6	6101 E3	6113 B6	6133 A7	7104 E5	9107 B7	F107 E9	F120 D10	I102 B3	I114 C7	I126 D1	I138 C7	I150 C7	I164 B2	I181 B9	I195 C2
2104 C6	2118 C6	2143 B6	3103 C2	3116 A6	3131 B8	3145 E3	3158 B10	3998 A4	6102 A2	6114 E2	6134 A7	7105 D3	9108 C7	F108 E9	F121 A9	I103 B5	I115 C3	I127 D1	I139 E2	I151 C7	I165 C1	I182 B9	I196 D3
2105 C1	2119 C7	2144 D3	3104 C2	3117 C2	3132 B8	3146 E4	3159 D8	5100 B5	6103 B1	6115 C3	6141 D9	7120 A2	9110 B3	F109 E9	F123 A9	I104 B6	I116 C6	I128 B6	I140 E2	I152 B8	I166 C3	I184 E7	I197 D3
2106 B10	2120 A7	2145 C2	3105 C2	3118 C4	3133 C10	3147 E3	3160 D3	5102 C1	6104 B2	6116 D4	6142 D3	7130 B9	9112 B6	F110 E9	F124 D10	I105 B6	I117 C2	I129 D2	I141 E6	I153 B8	I167 D3	I185 B8	I198 E3
2107 C6	2121 A1	2147 D9	3106 D1	3120 C1	3134 C10	3148 D3	3161 B6	5103 C6	6105 C3	6117 B7	6144 D2	7131 A8	9122 B7	F111 D8	F126 C10	I106 B3	I118 C1	I130 D2	I142 E7	I154 A9	I168 D4	I186 A10	
2108 B4	2122 A1	2148 A6	3107 E1	3121 A2	3135 B9	3149 D4	3162 A7	5104 B4	6106 E2	6118 C7	6147 C4	7132 C9	9126 C10	F112 D1	F143 E6	I107 B6	I119 C4	I131 D6	I143 A8	I155 A8	I169 D4	I187 A9	


A2
STAND-BY SUPPLY
HOT
COLD
1 2 3 4 5 6 7 8 9 10
A B C D E
A1-44
-20V
F100
2121 22n
I160
2122 22n
I161
3121 10R
I162
6102 MCL4148
I163
BC547B 7120
GND-STB
3122 10K
I164
6104 BZM55-C22
A1-12 STARTUP
A1-42 V-START
F901 3998 1K F903
F900 F902
+375V
A1-8
9110
3110 2R2
10n 2152
10n 2108
I148
I102
I106
I149
GND-STB
I110
5100 S22992-02
5106 50R
I103
6110 BYV27-600
64V
3116 4K7
3115 4K7
A8-47 35V
2116 470p
I100
I101
3170 33K
-0V5
3171 33K
VTUN
2148 2n2
I173
3162 470R
3144 470R
I172
6130 STP8H100
6134 MCL4148
6133 MCL4148
3130 47R
5130 83R
I188
12V8 (20V)
STP16NE06 7131
A20
2154 33n
I143
10V (0V)
6112
F121 8V5 (0V) BZX384-C10
F123
+8V6
2126 2m2
GND-SSP
A17
I189
GND-SSP
5111 83R
2120 2n2
I155
I107
9112
5112 83R
BYW29EX
6113
13V1
+11V_STBY
A18
+11V A3-48
I105
1149 1A6 MP160
I104
2143 2n2
5105 2u2
3161 220R
I128
6148 BYV27-200
2118 1m
9122
F101
6117 BAS316
9107
I134
6118 BAS316
3137 4K7
I138
6119 BAS316
9108
I150
+11V_ROT
A19
9102
3131 470R
2141 10u
GND-SSP
I153
3164 100K
I194 2131 1n
7133 BC857B
3132 47R
I180
I152
3140 100K
3168 4K7
I187
I154
3135 100R
I182
3153 4K7
I181 7130
BC847B
3151 100R
3156 100R
I186
6132 BZX384-C6V8
2106 1u
2150 10n
3158 100R
3165 330R
MCL4148 6149
I191
3136 10R
I185
I192
7132 BC847B
I176
3134 1K
F126
A8-9 STANDBY
3157 10K
2130 10n
3133 47K
A1-43 +5.2V
+11V_STBY 5V2 (0V)
I109
138V
-19.5V
I108
6103 BYD33D
6109 1N5062 (COL)
270V
2114 100n GND-STB
A11
I115
7102 STP3NB60
(1V1) 1V9
287V (326V)
I119
5104 83R
A10
I165
I111
2101 2n2
I112
3103 1K
3101 10M
5102 10u
2103 100p
3111 1K5
I117
I118
3105 1K
2105 100p
I123
3102 1K
I127
3120 10R
3117 47R
3104 47R
I195 470p
2145
I122
6115 BAT254
6105 BZX79-C15
(0V) 0V
I120
A12
5113 83R
I124
I125
7101 BC337-25
I166
3150 100R
3108 1R5
6147 BZX79-C6V8
3118 1R5
6144 MCL4148
3152 1K
3160 1K
2112 10n
3148 22R
-0V5 (-0V8)
GND-STB
A13
A14
I126
2111 47n
3149 10K
I167
2123 100n
I168
GND-STB
5103
I113
6111 SB360
6107 STPS8H100
I116
2107 2n2
5V2
2104 2m2
2119 2m2
I151
I114
F103 F104 F105
+5V -switch
9126
1148 1A25 MP125
+5.2V_MP
2100 470p
I121
F106
3109 680R
3167 680R
3166 680R
3159 10K
I157
7141 STP16NE06
5V2 (5V3)
A21
5V1 (0V)
+5V
2102 10u
3106 1K
GND-STB
I130
0.15V
2110 1u
I196
2144 1u
6108 BAT254
I197
6142 BAT254
BC557B 7105
RES
GND-STB
6116 BZM55-C5V6
I169
I136
3125 15R
3126 10K
I129
3107 1K
I137
F112
F113
0.1V
I140
I139
BC557B 7100
-0V6
3127 5K6
I146
6106 BZX79-B22
I145
-14V
3147 2K2
2124 10u
I170
3146 47R
A15
(-1V7) -1V3
TCET1102
0V8 (1V)
7103
-14V
9103 (-12V)
-0.8V
9106
I147
7104 TCDT1102G
2153 15n
A16
F143
0.9V
3124 68R
3114 220R
I131 I132 1V1
3123 10R
6120 1N4148
I141
0V4 I144
6121 1N4148
I133 5.2V
I135 5.2V
6122 BZX79-B3V9
1V1
I142
2109 1u
I184
2149 1u
F111 F114 F115
+5,2V_MP
GND-SSP
2147 15n
I193
+8V6
7140 BC847B
12V
0V (0V)
4V5
(0V3)
6141 BZM55-C15
(0V)
F124
F120
3141 2K7
3155 100R
GND-SSP
I158
3143 100R
I171
2140 10u
3142 3K3
F107 F116 F117
1146
GND-SSP
VTUN
F108
+11V
F109
+5.2V_MP
F110 F118
N.C.
6114 BYD33D
6101 MCL4148
I198
3145 220R
8204_000_8174.4
CL 36532017_009.eps 230403

About DC-voltages measured:
NORMAL ..V.
STANDBY (..V.)

STANDBY SUPPLY REPAIR KIT: 3122 785 90460

A10


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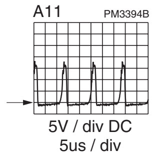

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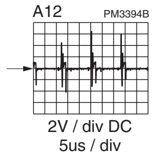

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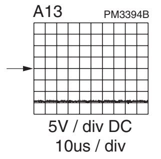

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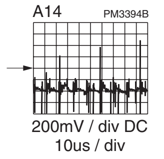

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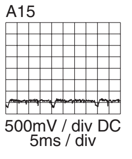

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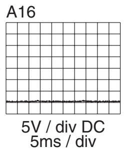

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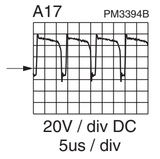

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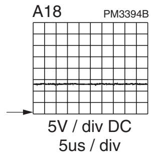

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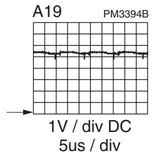

Large Signal Panel: Line Deflection

0042 F8
1417 B8
1424 C13
1430 A9
1491 D13
1492 E14
1493 D10
1495 A13
1498 D13
1499 D13
2400 D6
2401 E8
2402 D12
2405 G9
2409 C4
2412 B4
2413 B4
2414 B4
2415 C3
2417 B5
2418 B6
2419 C8
2420 B6
2421 E7
2422 E6
2423 E6
2424 D8
2425 B6
2426 B7
2430 B8
2431 C8
2432 D7
2433 D8
2434 D8
2435 B7
2440 F4
2441 G12
2442 F10
2443 G12
2444 H10
2445 G12
2450 D10
2460 E13
2461 E12
2462 A11
2463 A11
2464 B11
2465 B11
2468 D11
2469 E10
2488 B7
2492 C3
2494 A6
2495 A7
3400 D11
3401 E9
3402 F9
3404 D4
3406 C3
3407 C4
3409 B5
3410 A6
3411 B4
3414 C4
3415 A4
3416 A4
3417 C5
3423 B8
3425 C7
3426 C7
3431 C9
3435 D8
3436 D8
3437 F11
3440 F3
3441 F3
3442 F4
3443 F4
3444 F11
3445 F11
3446 F12
3447 F12
3448 H10
3450 C10
3451 C11
3452 H11
3453 H11
3454 F11
3460 E11
3461 E11
3462 A10
3463 A10
3464 B10
3465 B10
3469 E12
3498 A12
3499 A12
3689 E10
5400 D6
5401 E9
5402 A7
5410 B5
5411 B5
5421 C8
5422 E7
5423 B7
5424 E7
5425 C7
5426 A6
5430 C10
5461 E12
5463 A10
5465 B10
5466 E10
5469 D10
6400 D11
6401 H12
6406 C3
6407 A4
6408 A4
6409 F10
6410 F11
6411 G10
6412 F10
6413 G10
6414 G10
6415 H10
6421 A7
6422 C7
6423 B8
6434 D8
6435 D8
6460 E12
6462 A11
6463 A11
6464 B11
6465 B11
7407 H11
7408 C5
7409 C4
7421 A6
7445 F3
9401 E9
9410 D10
9417 B6
9423 B7
9425 C7
9426 A6
9623 B5
F400 D6
F401 D6
F402 D6
F403 A6
F404 A12
F405 D6
F406 A12
F407 D6
F408 A6
F409 A12
F410 A12
F411 B8
F412 B8
F413 A13
F414 B12
F415 B6
F416 B8
F417 B8
F418 C4
F419 C2
F421 C11
F422 C11
F423 C6
F424 C6
F425 C6
F426 D3
F427 D4
F429 D12
F430 D12
F431 E13
F432 E13
F433 E13
F434 C5
F436 C11
F437 F2
F438 C11
F439 H13
F440 G10
I400 A3
I401 E9
I402 A4
I403 B7
I404 D5
I405 A6
I406 A6
I407 A7
I408 A3
I409 A5
I410 A10
I411 A11
I413 A10
I414 A11
I416 A4
I417 A9
I418 B7
I419 A8
I420 B9
I421 D10
I422 B4
I424 B11
I425 B10
I426 B5
I427 B10
I428 B10
I429 B11
I430 B4
I431 B5
I432 B8
I433 B7
I434 B8
I435 C3
I436 C3
I437 C5
I438 C6
I439 C4
I440 C9
I441 C8
I443 C10
I444 D8
I445 D11
I447 D9
I454 D12
I455 E8
I457 E11
I458 E12
I460 E12
I461 E10
I463 E11
I466 E10
I471 E10
I473 F3
I474 F3
I475 G4
I476 F4
I477 E9
I478 B9
I479 A12
I480 A12
I481 A11
I482 D11
I483 D11
I484 D11
I485 H12
I487 F10
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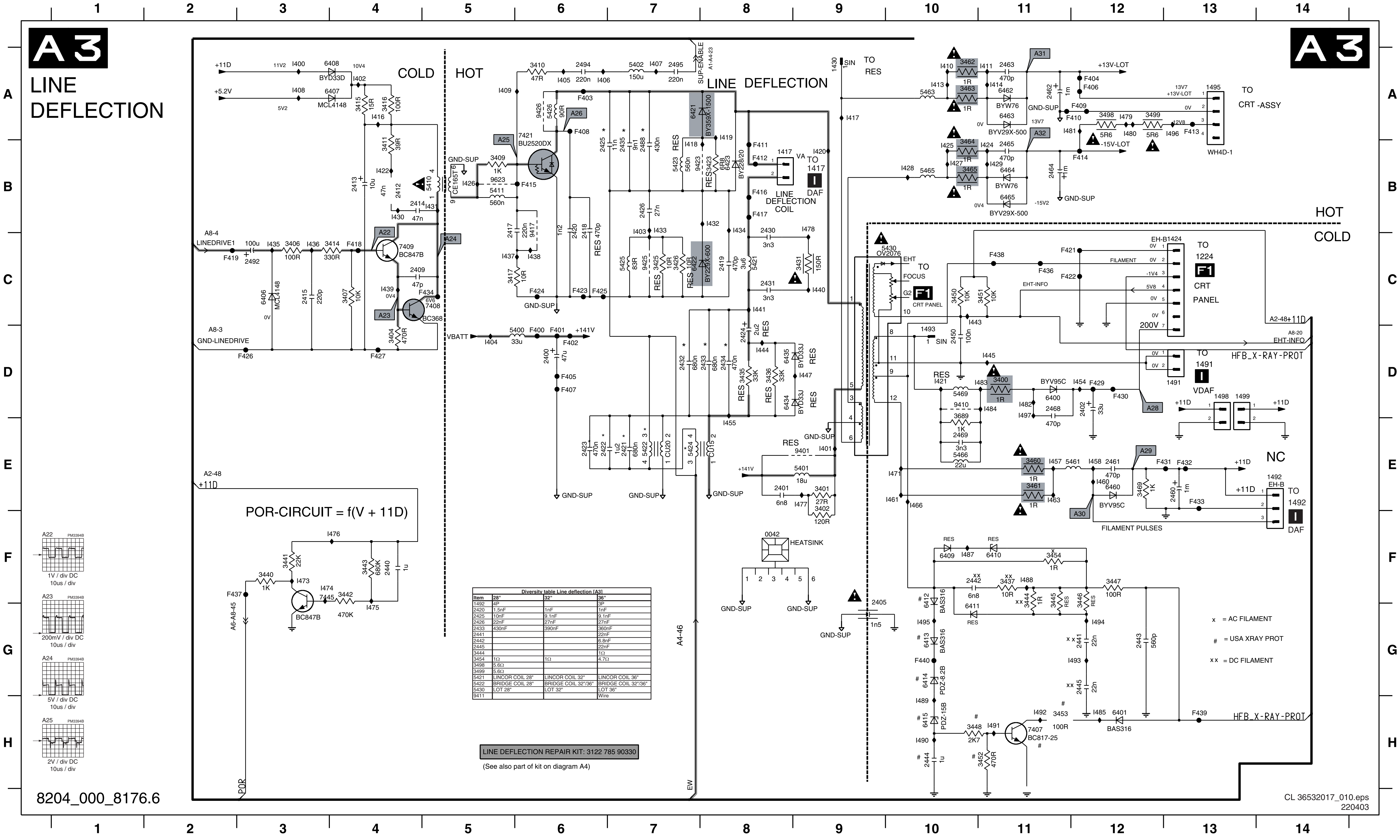
I495 G10
I496 A13
I497 D11


A3
LINE DEFLECTION
COLD
HOT
LINE DEFLECTION
POR-CIRCUIT = f(V + 11D)
NC
HOT
COLD
+11D
+5.2V
A8-4 LINEDRIVE1
A8-3 GND-LINEDRIVE
A2-48 +11D
VBATT
+141V
+13V-LOT
-15V-LOT
TO CRT -ASSY
WH4D-1
TO 1417 DAF
LINE DEFLECTION COIL
TO FOCUS
F1 CRT PANEL
EHT
TO 1224 F1 CRT PANEL
EHT-INFO
FILAMENT
HFB_X-RAY-PROT
TO 1491 VDAF
TO 1492 DAF
FILAMENT PULSES
HEATSINK
GND-SUP
7421 BU2520DX
7409 BC847B
7408 BC368
7445 BC847B
7407 BC817-25
SUP-ENABLE
A6-A8-45
A4-46
POR
EW
x = AC FILAMENT
# = USA XRAY PROT
xx = DC FILAMENT
A22 1V / div DC 10us / div
A23 200mV / div DC 10us / div
A24 5V / div DC 10us / div
A25 2V / div DC 10us / div
PM3394B
8204_000_8176.6
CL 36532017_010.eps
220403
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H

Diversity table Line deflection [A3]			
Item	**28"**	**32"**	**36"**
1492	4P		3P
2420	1.5nF	1nF	1nF
2425	10nF	9.1nF	9.1nF
2426	22nF	27nF	27nF
2433	430nF	390nF	360nF
2441			22nF
2442			6.8nF
2445			22nF
3444			1Ω
3454	1Ω	1Ω	4.7Ω
3498	5.6Ω		
3499	5.6Ω		
5421	LINCOR COIL 28"	LINCOR COIL 32"	LINCOR COIL 36"
5422	BRIDGE COIL 28"	BRIDGE COIL 32"/36"	BRIDGE COIL 32"/36"
5430	LOT 28"	LOT 32"	LOT 36"
9411			Wire

LINE DEFLECTION REPAIR KIT: 3122 785 90330

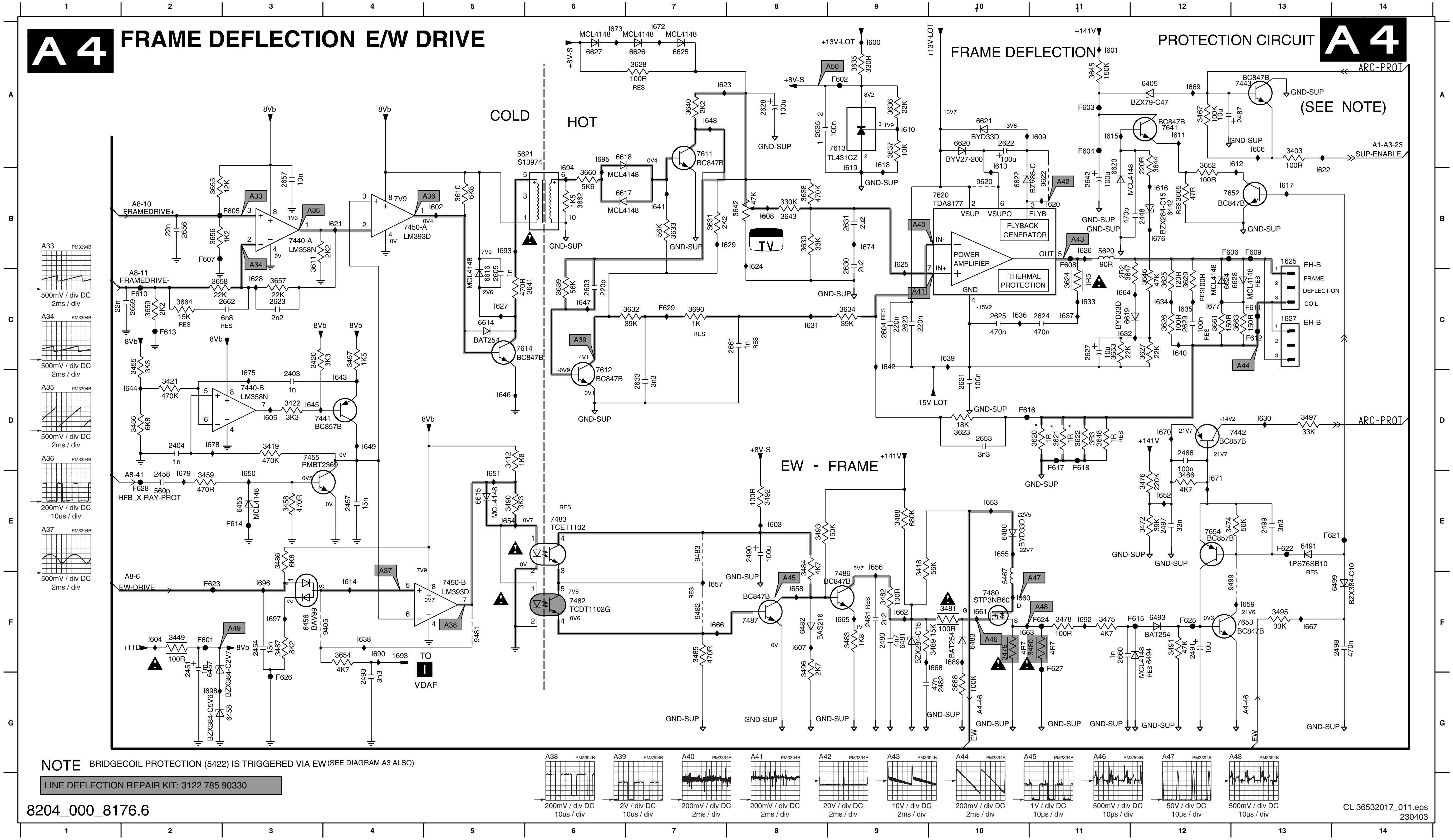
(See also part of kit on diagram A4)

Large Signal Panel: Frame Deflection E/W Drive

2480 F9	2404 D2	2628 A8	3419 D3	3490 E5	3627 C12	3422 D3	3664 C2	3611 B3	6627 A6	7612 D6	6481 F9	F624 F11	7483 E6	I619 A9	F613 C2	I607 F8	I672 A7	I673 A6	I649 D4
2481 F9	2448 B12	2629 C12	3472 E12	3491 F12	3628 A7	3449 F2	7654 E12	3620 D11	6628 C13	7613 A9	6482 F8	F625 F12	7486 F9	I620 B11	I636 C10	I608 B8	I625 B9	I674 B9	I650 E3
2631 B9	3478 F11	2630 B9	3474 E13	3492 E8	6619 C11	3455 C2	9405 F4	3621 D11	7440-A B3	7614 C5	6483 F10	F626 G3	7487 F8	I621 B4	I637 C11	I609 A11	I626 B11	I675 D3	I651 E5
2451 F2	3482 F9	3629 C12	3475 F11	2498 F14	3630 B8	3456 D2	9481 F5	3622 D11	7440-B D3	I615 A11	6491 E13	F627 F11	I611 A12	I622 B13	I638 F4	I610 A9	I627 C5	I676 B12	I652 E12
2454 F3	3483 F9	2633 D7	3476 E12	2499 E13	3631 B7	3457 C4	9482 F7	3623 D10	3643 B8	7641 A12	6493 F12	F628 E2	I612 A13	I623 A7	I639 C10	I654 E5	I628 C3	I677 C12	I653 E10
2457 E4	3484 E8	2635 A8	3661 C12	2603 C6	3632 C7	3458 E3	5620 B11	3624 C11	3644 A12	7652 B13	6494 F12	F629 C7	I613 A10	I624 B8	I698 G2	I655 E10	I629 B8	I678 D2	
2458 E2	3485 F7	2642 B11	3479 F10	2604 C9	6623 A11	3459 E2	5621 A5	6615 E5	3645 A11	7653 F13	6499 F14	7441 D3	I614 F4	F603 A11	I641 B7	I656 E9	I630 D13	I679 E2	
2466 D12	3486 E3	3633 B7	3480 F11	2605 C5	6624 C12	3466 E12	6405 A12	6616 C5	3646 C12	9483 E7	6614 C5	7442 D13	I658 F8	F604 A11	I642 C9	I657 F7	I631 C8	I689 F10	
2653 D10	2482 G10	3634 C9	3481 F10	2620 C9	3637 A9	3467 A12	6442 B12	6617 B6	3647 C12	9499 F13	F614 E3	7443 A13	I616 B12	F605 B3	I643 D4	I659 F13	I632 C11	I690 F4	
2656 B2	2487 A13	3635 A9	3665 B12	2621 D10	3638 B8	3657 C3	6455 E3	6618 A6	3648 D11	9620 B10	F615 F12	7450-A	I617 B13	F606 B12	I600 A9	I660 F10	I633 C11	I692 F11	
2657 B3	2490 E8	3636 A9	3688 G10	2622 A10	3639 C6	3658 C2	6456 F3	F618 D11	3652 A12	9622 B11	F616 D10	B4	I618 A9	F607 B2	I601 A11	I661 F10	I634 C12	I693 B5	
2659 C2	2491 F12	2661 C8	3690 C7	2623 C3	3640 A7	3659 C2	3493 E8	6620 A10	3653 C11	F601 F2	F617 D11	7450-B	I662 F9	F608 B11	I602 B5	I667 F13	I635 C12	I644 D2	
2660 F11	2493 G4	2662 C3	5467 F10	2624 C11	3641 C6	3660 B6	3495 F13	6621 A10	3654 F4	F602 A9	I640 C12	F5	I663 F10	F609 B13	I603 E8	I668 F10	I694 A6	I645 D3	
1627 C13	2497 E12	3403 A13	3487 F3	2625 C10	3642 B8	7620 B10	3496 F8	6622 B10	3655 B2	6457 F2	F621 E13	7455 D3	I664 C11	F610 C2	I604 F2	I669 A12	I695 A6	I646 D5	
1693 F4	1625 B13	3412 D5	3488 E9	3625 C12	3420 C3	3662 B6	3497 D13	6625 A7	3656 B2	6458 G3	F622 E13	7480 F10	I665 F9	F611 C13	I605 D3	I670 D12	I696 F3	I647 C6	
2403 D3	2627 C11	3418 E9	3489 F10	3626 C12	3421 D2	3663 C13	3610 B5	6626 A7	7611 A7	6480 E10	F623 F2	7482 F6	I666 F7	F612 C13	I606 A13	I671 E12	I697 F3	I648 A7	

Diversity table Frame deflection [A4]

Item	28"	32"	36"
1693			1P
2493			3.3nF
3480		6.8Ω	
3488	1MΩ	680kΩ	1MΩ
3621	1Ω	1.5Ω	1Ω
3622	1.5Ω	1.8Ω	1Ω
3625	120Ω	220Ω	56Ω
3626	100Ω	220Ω	56Ω
3654			4.7kΩ
3661		470Ω	120Ω
6499	BZX384-C10	PDZ9.1B	BZX384-C10
6624		BAS316	BAS316


A4
FRAME DEFLECTION E/W DRIVE
COLD
HOT
FRAME DEFLECTION
PROTECTION CIRCUIT
A4
ARC-PROT
(SEE NOTE)
A1-A3-23
SUP-ENABLE
EW - FRAME
A8-10
FRAMEDRIVE+
A8-11
FRAMEDRIVE-
A8-41
HFB_X-RAY-PROT
A8-6
EW-DRIVE
+11D
8Vb
+8V-S
+13V-LOT
+141V
-15V-LOT
GND-SUP
7440-A
LM358N
7440-B
LM358N
7450-A
LM393D
7450-B
LM393D
7441
BC857B
7455
PMBT2369
7614
BC847B
7612
BC847B
7611
BC847B
7613
TL431CZ
7620
TDA8177
POWER AMPLIFIER
FLYBACK GENERATOR
THERMAL PROTECTION
VSUP
VSUPO
FLYB
OUT
GND
IN-
IN+
7641
BC847B
7652
BC847B
7443
BC847B
7442
BC857B
7654
BC857B
7653
BC847B
7483
TCET1102
7482
TCDT1102G
7486
BC847B
7487
BC847B
7480
STP3NB60
1625
EH-B
FRAME DEFLECTION COIL
1627
EH-B
5621
S13974
TV
TO VDAF
A33
A34
A35
A36
A37
A38
A39
A40
A41
A42
A43
A44
A45
A46
A47
A48
A49
A50
500mV / div DC
2ms / div
200mV / div DC
10us / div
2V / div DC
10us / div
20V / div DC
2ms / div
10V / div DC
1V / div DC
10µs / div
500mV / div DC
50V / div DC
PM3394B

NOTE BRIDGECOIL PROTECTION (5422) IS TRIGGERED VIA EW (SEE DIAGRAM A3 ALSO)

LINE DEFLECTION REPAIR KIT: 3122 785 90330

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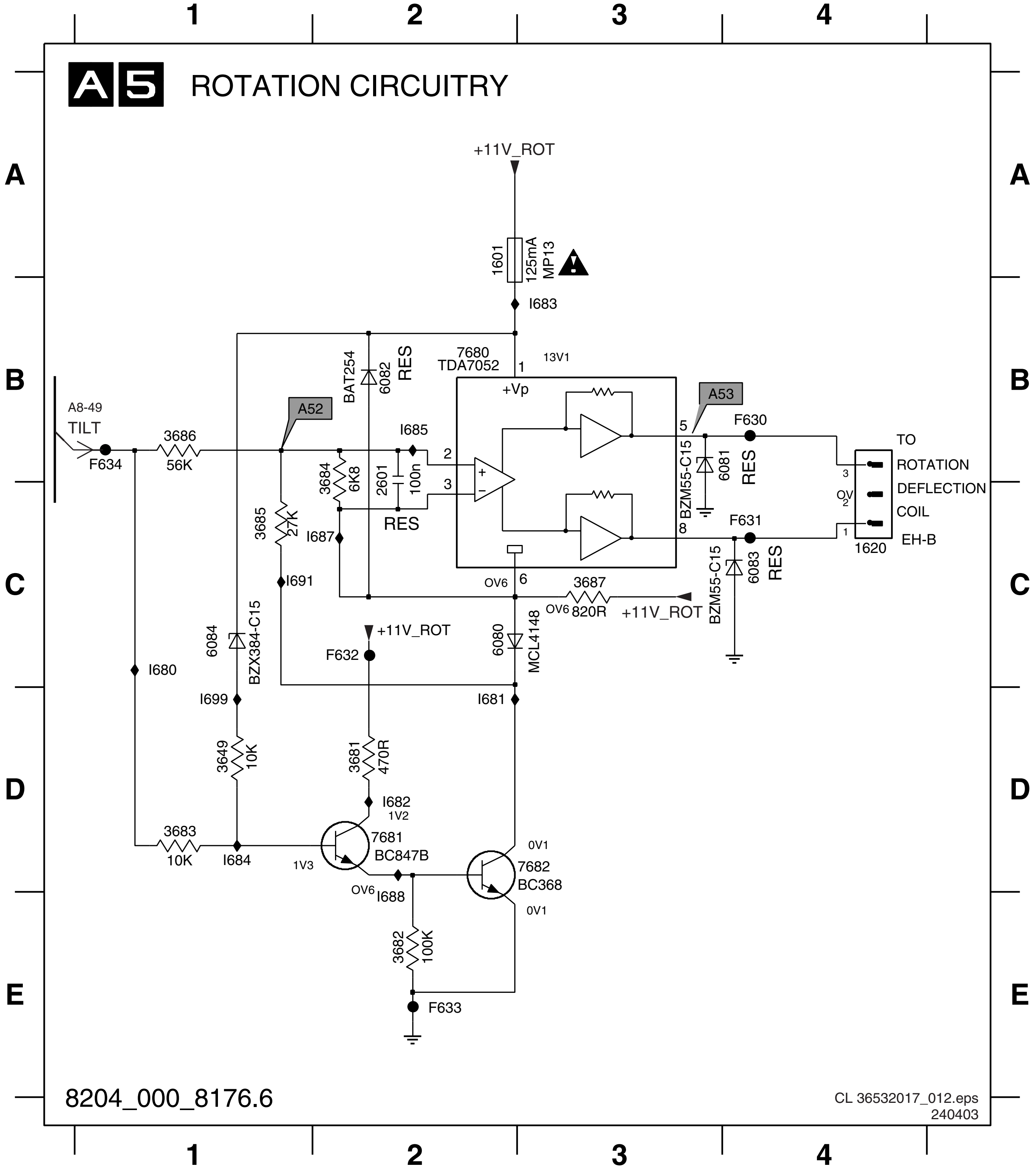
CL 36532017_011.eps
230403

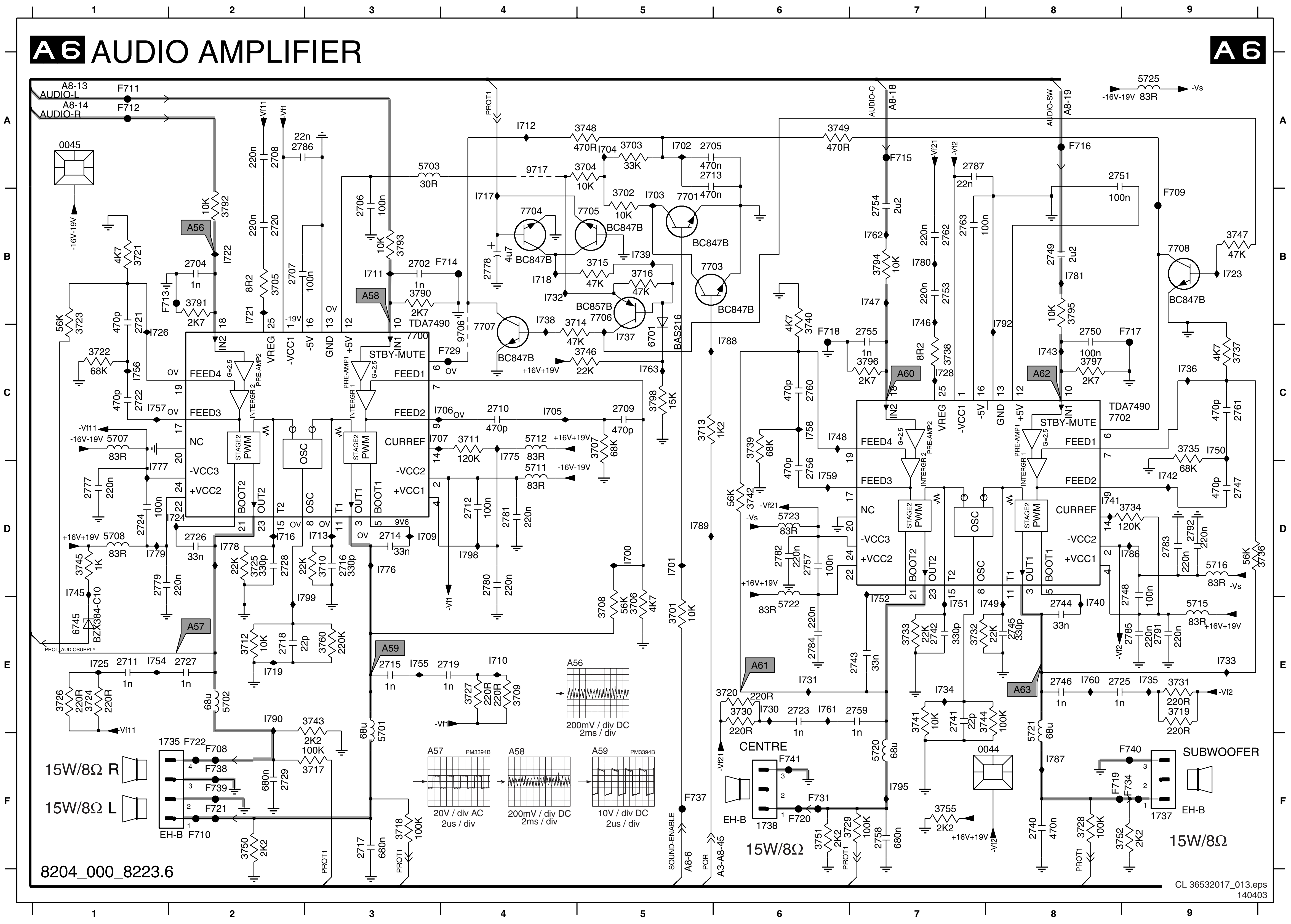
Large Signal Panel: Rotation Circuitry

1601 A2
1620 C4
2601 B2
3649 D1
3681 D2
3682 E2
3683 D1
3684 B2
3685 C1
3686 B1
3687 C3
6080 C2
6081 B3
6082 B2
6083 C4
6084 C1
7680 B2
7681 D2
7682 D3
F630 B4
F631 C4
F632 C2
F633 E2
F634 B1
I680 C1
I681 D2
I682 D2
I683 B3
I684 D1
I685 B2
I687 C2
I688 E2
I691 C1
I699 D1


1
2
3
4
A
B
C
D
E
A5
ROTATION CIRCUITRY
+11V_ROT
1601
125mA
MP13
I683
7680
TDA7052
13V1
BAT254
6082
RES
1
+Vp
A53
A52
A8-49
TILT
F634
3686
56K
I685
2
3
3684
6K8
2601
100n
RES
5
F630
BZM55-C15
6081
RES
TO
ROTATION
DEFLECTION
COIL
EH-B
1620
3
0V
2
1
8
F631
BZM55-C15
6083
RES
3685
27K
I687
I691
0V6
6
3687
0V6
820R
+11V_ROT
+11V_ROT
6080
MCL4148
6084
BZX384-C15
F632
I680
I699
I681
3649
10K
3681
470R
I682
1V2
7681
BC847B
3683
10K
I684
1V3
0V6
I688
0V1
7682
BC368
0V1
3682
100K
F633
8204_000_8176.6
CL 36532017_012.eps
240403

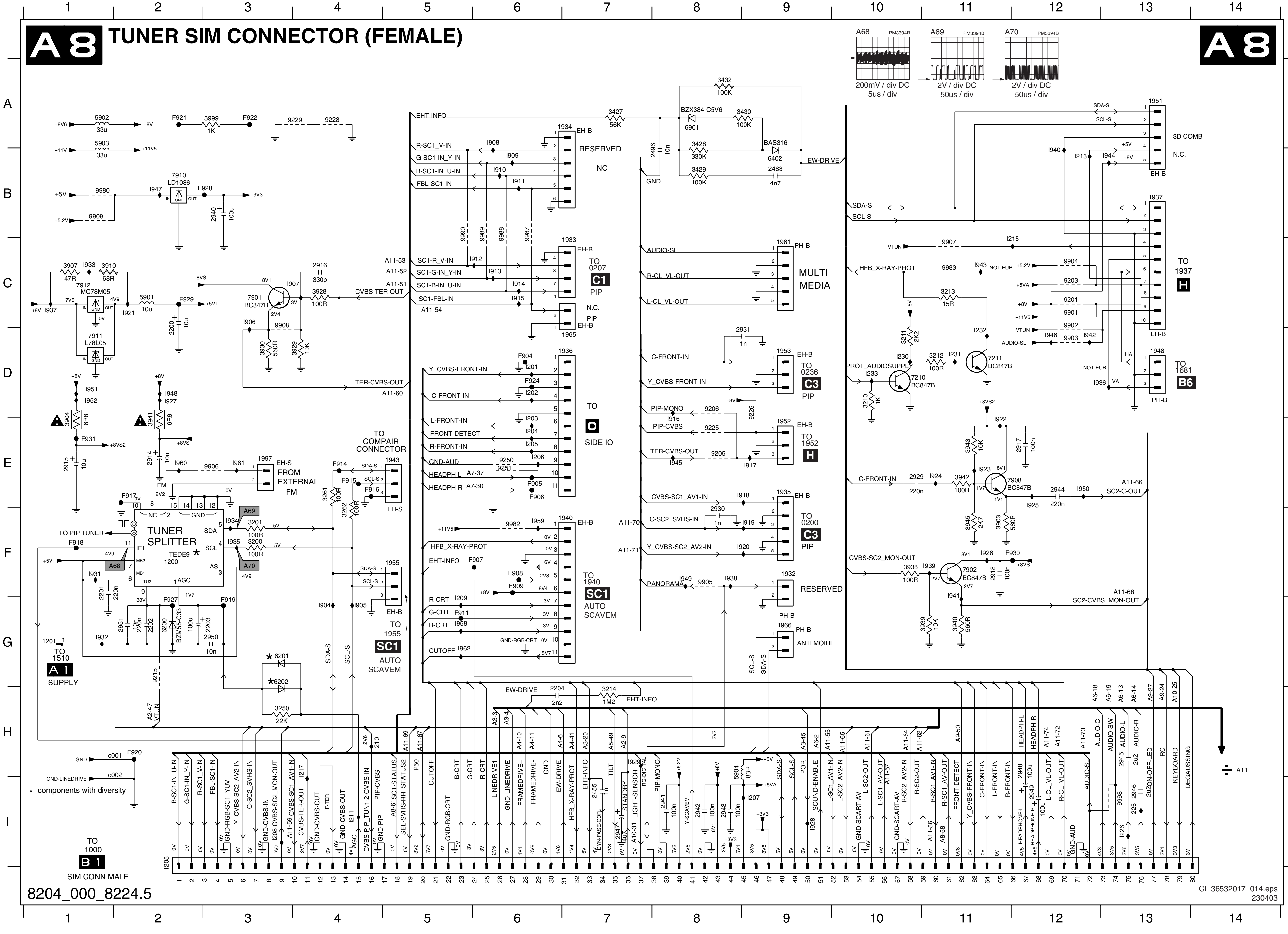
Personal Notes:

Large Signal Panel: Audio Amplifier


A6 AUDIO AMPLIFIER A6
1 2 3 4 5 6 7 8 9
A B C D E F
A8-13 AUDIO-L F711
A8-14 AUDIO-R F712
0045
-16V-19V
TDA7490 7700
TDA7490 7702
IN2 VREG -VCC1 -5V GND +5V IN1 STBY-MUTE
FEED4 FEED3 FEED1 FEED2 NC CURREF -VCC3 +VCC2 -VCC2 +VCC1
PRE-AMP2 PRE-AMP1 INTERGR 2 INTERGR 1 STAGE2 PWM OSC
BOOT2 OUT2 T2 OSC T1 OUT1 BOOT1
BC847B 7704 7705 7701 7703 7707 7708
BC857B 7706
BAS216 6701
BZX384-C10 6745
9717 9706
PROT1
PROT AUDIOSUPPLY
+16V+19V
-Vf1 -Vf2 Vf11 Vf21
A56 A57 A58 A59 A60 A61 A62 A63
AUDIO-C A8-18
AUDIO-SW A8-19
5725 83R -Vs
F709 F715 F716 F717 F718 F729 F737
CENTRE
SUBWOOFER
15W/8Ω R
15W/8Ω L
15W/8Ω
1735 1737 1738
EH-B
0044
SOUND-ENABLE A8-6
POR A3-A8-45
A56 200mV / div DC 2ms / div
A57 20V / div AC 2us / div
A58 200mV / div DC 2ms / div
A59 10V / div DC 2us / div
PM3394B
8204_000_8223.6
CL 36532017_013.eps
140403

0044	F7	2783	D9	3790	B3	I702	A5	I786	D9
0045	A1	2784	E6	3791	B2	I703	B5	I787	F8
1735	F2	2785	E9	3792	B2	I704	A5	I788	C6
1737	F9	2786	A2	3793	B3	I705	C4	I789	D5
1738	F6	2787	A7	3794	B7	I706	C4	I790	E2
2702	B3	2791	E9	3795	B8	I707	C3	I792	B8
2704	B2	2792	D9	3796	C7	I709	D3	I795	F7
2705	A5	3701	E5	3797	C8	I710	E4	I798	D4
2706	B3	3702	B5	3798	C5	I711	B3	I799	E3
2707	B2	3703	A5	5701	E3	I712	A4		
2708	A2	3704	A5	5702	E2	I713	D3		
2709	C5	3705	B2	5703	A3	I716	D2		
2710	C4	3706	E5	5707	C1	I717	B4		
2711	E1	3707	C5	5708	D1	I718	B4		
2712	D4	3708	E5	5711	D4	I719	E2		
2713	A5	3709	E4	5712	C4	I721	B2		
2714	D3	3710	D3	5715	E9	I722	B2		
2715	E3	3711	C4	5716	D9	I723	B9		
2716	D3	3712	E2	5720	F7	I724	D2		
2717	F3	3713	C5	5721	E8	I725	E1		
2718	E2	3714	C4	5722	E6	I726	C1		
2719	E4	3715	B5	5723	D6	I728	C7		
2720	B2	3716	B5	5725	A9	I730	E6		
2721	B1	3717	F3	6701	C5	I731	E6		
2722	C1	3718	F3	6745	E1	I732	B4		
2723	E6	3719	E9	7700	C3	I733	E9		
2724	D1	3720	E6	7701	B5	I734	E7		
2725	E8	3721	B1	7702	C8	I735	E9		
2726	D2	3722	C1	7703	B5	I736	C9		
2727	E2	3723	B1	7704	B4	I737	C5		
2728	D2	3724	E1	7705	B5	I738	B4		
2729	F2	3725	D2	7706	B5	I739	B5		
2740	F8	3726	E1	7707	C4	I740	E8		
2741	E7	3727	E4	7708	B9	I741	D8		
2742	E7	3728	F8	9706	C4	I742	D9		
2743	E7	3729	F7	9717	A4	I743	C8		
2744	E8	3730	E6	F708	F2	I745	D1		
2745	E8	3731	E9	F709	B9	I746	B7		
2746	E8	3732	E7	F710	F2	I747	B7		
2747	D9	3733	E7	F711	A1	I748	C6		
2748	D8	3734	D9	F712	A1	I749	E8		
2749	B8	3735	C9	F713	B2	I750	C9		
2750	C8	3736	D9	F714	B4	I751	E7		
2751	A8	3737	C9	F715	A7	I752	E7		
2753	B7	3738	C7	F716	A8	I754	E1		
2754	B7	3739	C6	F717	C9	I755	E3		
2755	C7	3740	B6	F718	C6	I756	C1		
2756	D6	3741	E7	F719	F8	I757	C1		
2757	D6	3742	D6	F720	F6	I758	C6		
2758	F7	3743	E3	F721	F2	I759	D6		
2759	E7	3744	E8	F722	F2	I760	E8		
2760	C6	3745	D1	F729	C4	I761	E6		
2761	C9	3746	C5	F731	F6	I762	B7		
2762	B7	3747	B9	F734	F9	I763	C5		
2763	B7	3748	A5	F737	F5	I775	C4		
2777	D1	3749	A6	F738	F2	I776	D3		
2778	B4	3750	F2	F739	F2	I777	D1		
2779	D1	3751	F6	F740	F9	I778	D2		
2780	D4	3752	F9	F741	F6	I779	D1		
2781	D4	3755	F7	I700	D5	I780	B7		
2782	D6	3760	E3	I701	D5	I781	B8		

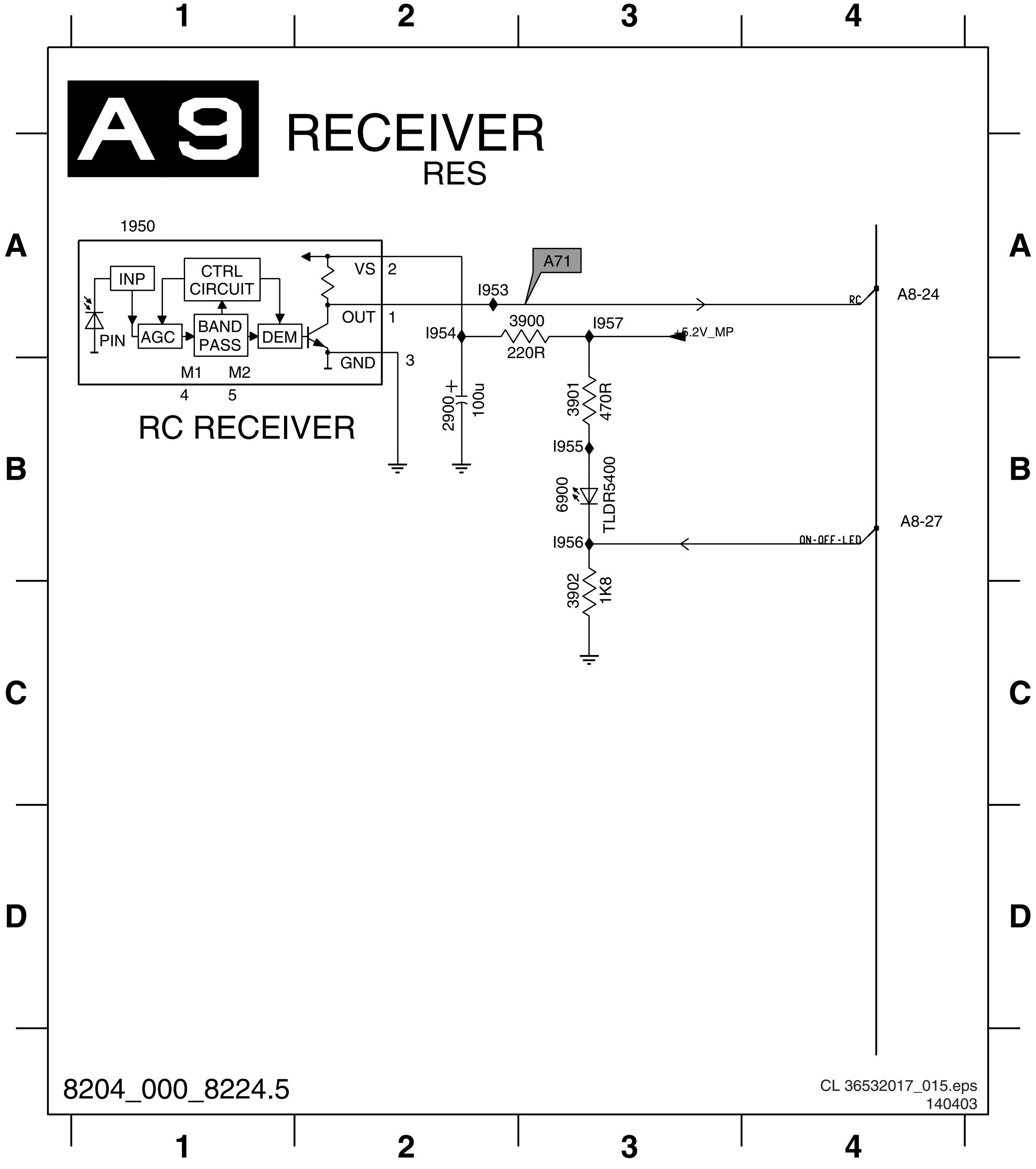
Large Signal Panel: Tuner SIM Connector (Female)


A8
TUNER SIM CONNECTOR (FEMALE)
A68 PM3394B
200mV / div DC
5us / div
A69 PM3394B
2V / div DC
50us / div
A70 PM3394B
2V / div DC
50us / div
TUNER SPLITTER
TEDE9 1200
TO PIP TUNER
TO 1510
A1
SUPPLY
7910 LD1086
7912 MC78M05
7911 L78L05
7901 BC847B
1997 FROM EXTERNAL FM
1943 TO COMPAIR CONNECTOR
1955 TO 1955 SC1 AUTO SCAVEM
1934 RESERVED NC
1933 TO 0207 C1 PIP
1965 N.C. PIP
1936 TO O SIDE IO
1940 TO 1940 SC1 AUTO SCAVEM
1961 MULTI MEDIA
1953 TO 0236 C3 PIP
1952 TO 1952 H
1935 TO 0200 C3 PIP
1932 RESERVED
1966 ANTI MOIRE
1951 3D COMB N.C.
1937 TO 1937 H
1948 TO 1681 B6
7210 BC847B
7211 BC847B
7908 BC847B
7902 BC847B
EHT-INFO
EW-DRIVE
R-SC1_V-IN
G-SC1-IN_Y-IN
B-SC1-IN_U-IN
FBL-SC1-IN
CVBS-TER-OUT
TER-CVBS-OUT
Y_CVBS-FRONT-IN
C-FRONT-IN
L-FRONT-IN
FRONT-DETECT
R-FRONT-IN
GND-AUD
HEADPH-L
HEADPH-R
HFB_X-RAY-PROT
R-CRT
G-CRT
B-CRT
CUTOFF
AUDIO-SL
R-CL_VL-OUT
L-CL_VL-OUT
PIP-MONO
PIP-CVBS
CVBS-SC1_AV1-IN
C-SC2_SVHS-IN
Y_CVBS-SC2_AV2-IN
PANORAMA
SDA-S
SCL-S
VTUN
PROT_AUDIOSUPPLY
C-FRONT-IN
SC2-C-OUT
CVBS-SC2_MON-OUT
SC2-CVBS_MON-OUT
TO 1000
B1
SIM CONN MALE
1205
* components with diversity
8204_000_8224.5
CL 36532017_014.eps
230403

1200	F2
1201	G1
1205	I2
1932	F9
1933	B6
1934	A6
1935	E9
1936	D6
1937	B13
1940	F6
1943	E5
1948	D13
1951	A13
1952	E9
1953	D9
1955	F5
1961	C9
1965	D6
1966	G9
1997	E3
2200	D2
2201	F1
2202	G2
2203	G3
2455	I7
2483	B9
2496	B8
2914	E2
2915	E1
2916	C4
2917	E12
2918	F11
2929	E10
2930	F8
2931	D9
2940	B3
2941	I8
2942	I8
2943	I8
2944	E12
2945	H13
2946	I13
2947	I7
2948	H12
2949	I12
2950	G3
2951	G2
3200	F3
3201	F3
3210	D10
3211	D10
3212	D11
3213	C11
3250	H3
3261	E4
3262	F4
3427	A7
3428	A8
3429	B8
3430	A9
3432	A8
3903	F11
3904	E1
3907	C1
3910	C1
3928	C4
3929	D4
3930	D3
3938	F10
3939	G11
3940	G11
3941	E2
3942	E11
3943	E11
3945	F11
3999	A3
5901	C2
5902	A1
5903	A1
5904	H8
6200	G2
6201	G3
6202	G3
6402	B9
6901	A8
7210	D10
7211	D11
7901	C3
7902	F11
7908	E11
7910	B2
7911	D1
7912	C1
9201	C12
9203	C12
9205	E8
9206	D8
9215	G2
9225	E8
9226	D9
9228	A4
9229	A4
9250	E6
9251	E6
9901	C12
9902	C12
9903	D12
9904	C12
9905	F8
9906	E3
9907	C11
9908	C3
9909	B1
9980	B1
9982	F6
9983	C11
9987	B6
9988	B6
9989	B6
9990	B5
9998	I13
F904	D6
F905	E6
F906	E6
F907	F6
F908	F6
F909	F6
F911	G5
F914	E4
F915	E4
F916	E4
F917	E2
F918	F1
F919	G3
F920	H2
F921	A2
F922	A3
F924	D6
F927	G2
F928	B3
F929	C2
F930	F12
F931	E1
I201	D6
I202	D6
I203	E6
I204	E6
I205	E6
I206	E6
I207	I9
I208	I3
I209	G5
I210	H4
I211	I4
I213	B12
I215	C12
I217	H4
I225	I13
I226	I13
I230	D10
I231	D11
I232	D11
I233	D10
I904	G4
I905	G4
I906	C3
I907	C4
I908	A6
I909	B6
I910	B6
I911	B6
I912	C6
I913	C6
I914	C6
I915	C6
I916	E8
I917	E9
I918	E9
I919	F9
I920	F9
I921	C2
I922	E11
I923	E11
I924	E11
I925	E12
I926	F11
I927	D2
I928	I9
I929	H7
I931	F1
I932	G1
I933	C1
I934	F3
I935	F3
I936	D12
I937	C1
I938	F8
I939	F11
I940	B12
I941	F11
I942	D12
I943	C11
I944	B13
I945	E8
I946	D12
I947	B2
I948	D2
I949	F8
I950	E12
I951	D1
I952	D1
I958	G5
I959	F6
I960	E2
I961	E3
I962	G5
c001	H2
c002	I2

Large Signal Panel: Receiver

1950	A1
2900	B2
3900	A3
3901	B3
3902	C3
6900	B3
I953	A2
I954	A2
I955	B3
I956	B3
I957	A3


A9
RECEIVER
RES
1950
INP
CTRL
CIRCUIT
AGC
BAND
PASS
DEM
PIN
VS 2
OUT 1
GND 3
M1 M2
4 5
RC RECEIVER
I953
A71
RC
A8-24
I954
3900
220R
I957
+5.2V_MP
2900
100u
3901
470R
I955
6900
TLDR5400
I956
ON-OFF-LED
A8-27
3902
1K8
1 2 3 4
A B C D
8204_000_8224.5
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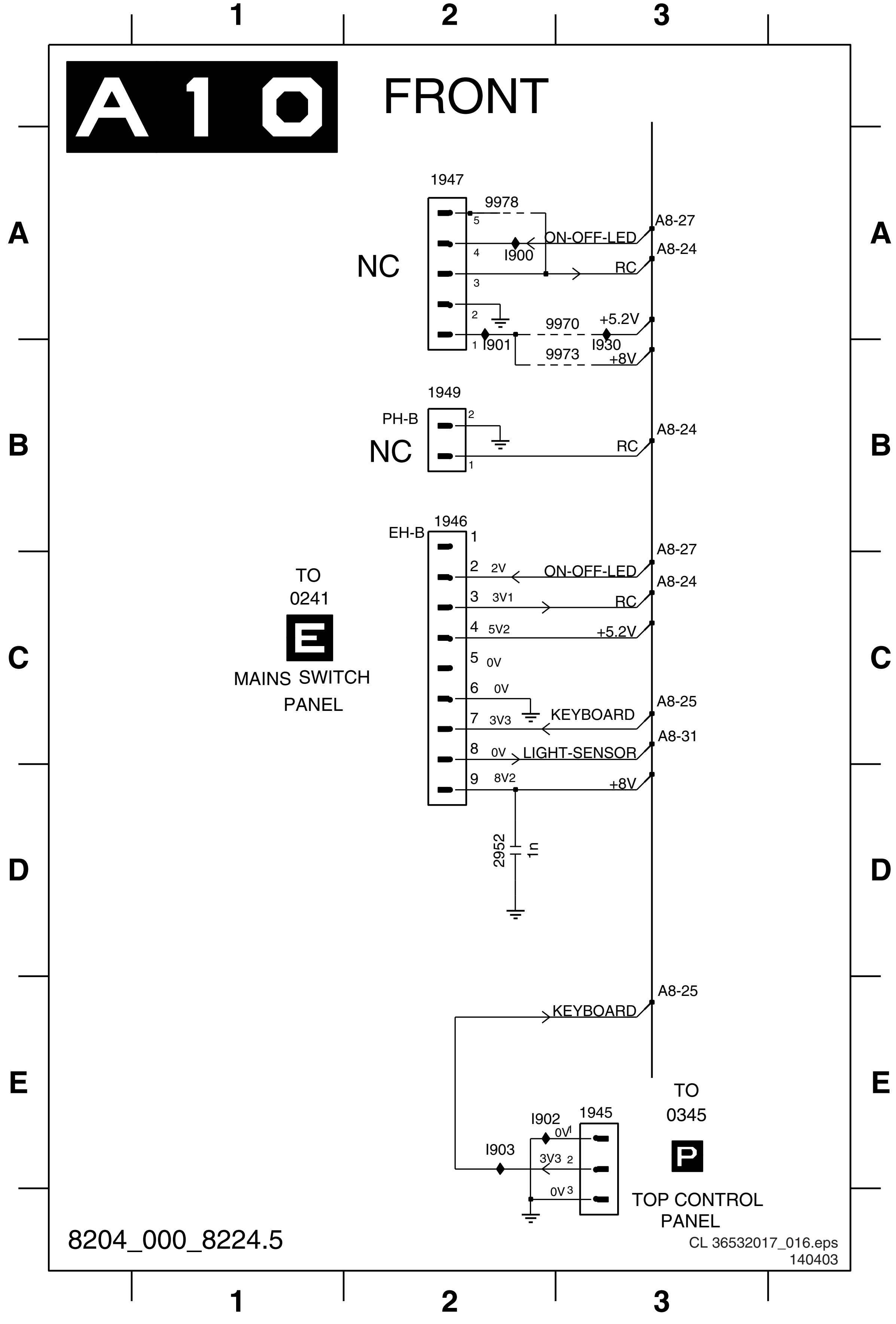
140403

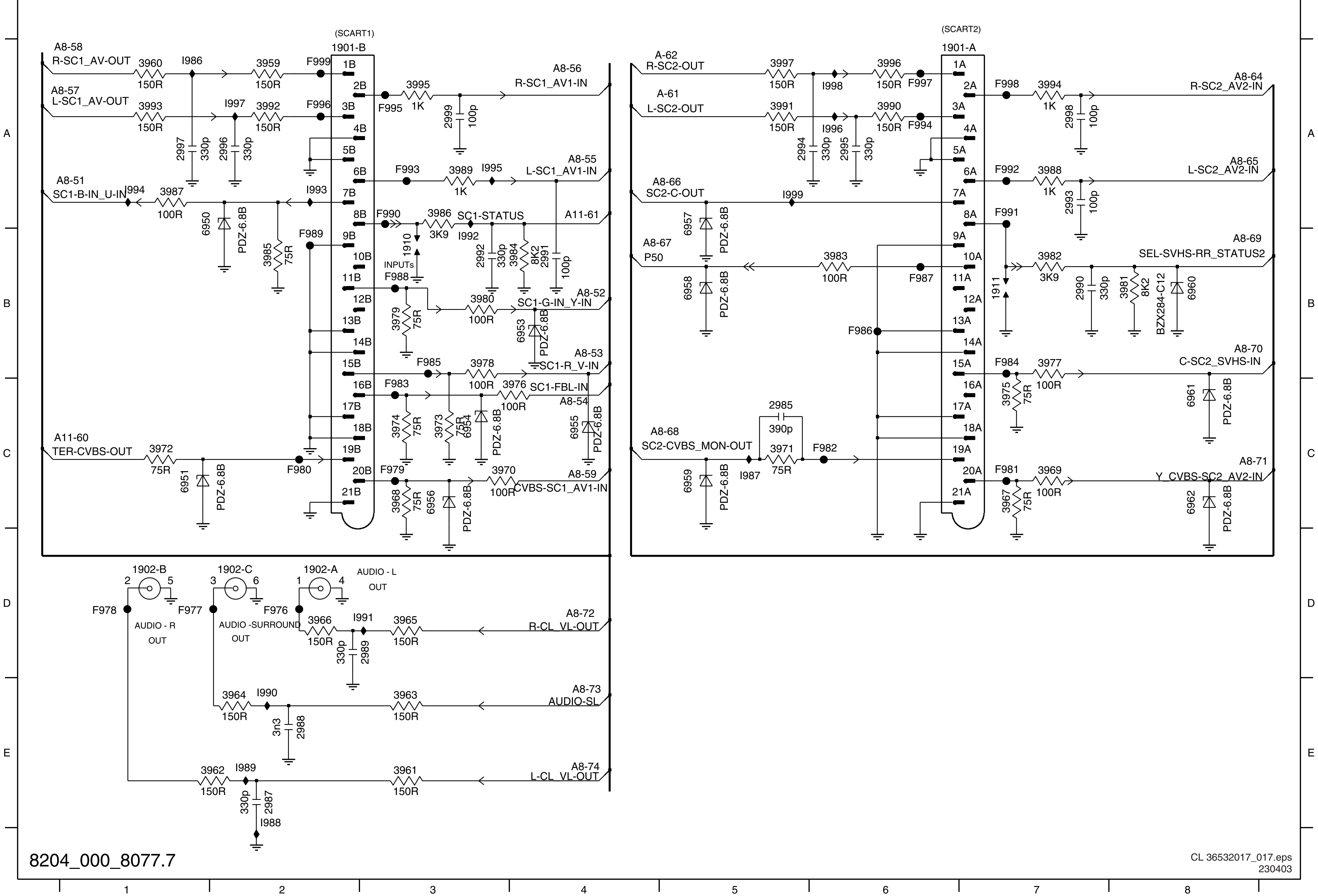
Large Signal Panel: Front

1945	E3
1946	B2
1947	A2
1949	B2
2952	D2
9970	A3
9973	B3
9978	A2
I900	A2
I901	B2
I902	E2
I903	E2
I930	B3


A10
FRONT
1947
NC
9978
ON-OFF-LED
A8-27
I900
A8-24
RC
9970
+5.2V
I901
I930
9973
+8V
1949
PH-B
NC
RC
A8-24
EH-B
1946
TO
0241
E
MAINS SWITCH
PANEL
1 2V ON-OFF-LED A8-27
2 2V
3 3V1 RC A8-24
4 5V2 +5.2V
5 0V
6 0V
7 3V3 KEYBOARD A8-25
8 0V LIGHT-SENSOR A8-31
9 8V2 +8V
2952
1n
KEYBOARD
A8-25
TO
0345
P
TOP CONTROL
PANEL
I902
1945
I903
0V
3V3
0V
1 2 3
A B C D E
8204_000_8224.5
CL 36532017_016.eps
140403

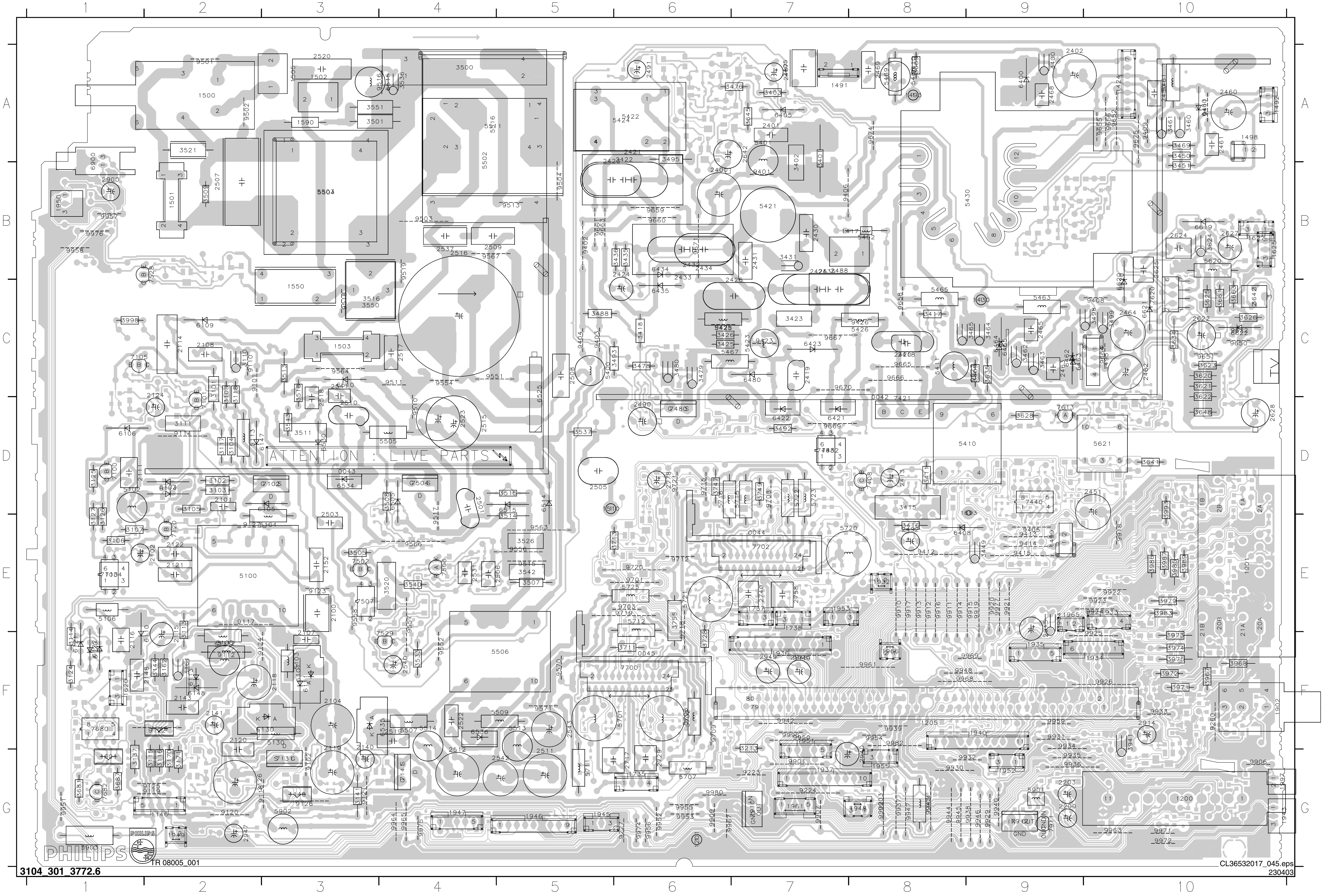
Large Signal Panel: Inputs/Outputs

A 11 INPUTS/OUTPUTS A 11


(SCART1)
1901-B
(SCART2)
1901-A
A8-58
R-SC1_AV-OUT
A8-57
L-SC1_AV-OUT
A8-51
SC1-B-IN_U-IN
A11-60
TER-CVBS-OUT
A8-56
R-SC1_AV1-IN
A8-55
L-SC1_AV1-IN
A11-61
SC1-STATUS
A8-52
SC1-G-IN_Y-IN
A8-53
SC1-R_V-IN
SC1-FBL-IN
A8-54
A8-59
CVBS-SC1_AV1-IN
INPUTs
A-62
R-SC2-OUT
A-61
L-SC2-OUT
A8-66
SC2-C-OUT
A8-67
P50
A8-68
SC2-CVBS_MON-OUT
A8-64
R-SC2_AV2-IN
A8-65
L-SC2_AV2-IN
A8-69
SEL-SVHS-RR_STATUS2
A8-70
C-SC2_SVHS-IN
A8-71
Y_CVBS-SC2_AV2-IN
1902-B
1902-C
1902-A
AUDIO - R OUT
AUDIO -SURROUND OUT
AUDIO - L OUT
A8-72
R-CL_VL-OUT
A8-73
AUDIO-SL
A8-74
L-CL_VL-OUT
PDZ-6.8B
BZX284-C12
1 2 3 4 5 6 7 8
A B C D E
8204_000_8077.7
CL 36532017_017.eps
230403

1901-A	A6
1901-B	A2
1902-A	D2
1902-B	D1
1902-C	D2
1910	B3
1911	B7
2985	C5
2987	E2
2988	E2
2989	D3
2990	B7
2991	B4
2992	B3
2993	A7
2994	A5
2995	A6
2996	A2
2997	A1
2998	A7
2999	A3
3959	A2
3960	A1
3961	E3
3962	E2
3963	E3
3964	E2
3965	D3
3966	D2
3967	C7
3968	C3
3969	C7
3970	C3
3971	C5
3972	C1
3973	C3
3974	C3
3975	C7
3976	C4
3977	B7
3978	B3
3979	B3
3980	B3
3981	B8
3982	B7
3983	B6
3984	B4
3985	B2
3986	A3
3987	A1
3988	A7
3989	A3
3990	A6
3992	A2
3991	A5
3993	A1
3994	A7
3995	A3
3996	A6
3997	A5
6950	A1
6951	C1
6953	B4
6954	C3
6955	C4
6956	C3
6957	A5
6958	B5
6959	C5
6960	B8
6961	C8
6962	C8
F976	D2
F977	D1
F978	D1
F979	C3
F980	C2
F981	C7
F982	C6
F983	C3
F984	B7
F985	B3
F986	B6
F987	B6
F988	B3
F989	B2
F990	A3
F991	A7
F992	A7
F993	A3
F994	A6
F995	A3
F996	A2
F997	A6
F998	A7
F999	A2
I986	A1
I987	C5
I988	E2
I989	E2
I990	E2
I991	D3
I992	B3
I993	A2
I994	A1
I995	A3
I996	A6
I997	A2
I998	A6
I999	A5

Layout Large Signal Panel (Top Side)


1
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A
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C
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E
F
G
ATTENTION : LIVE PARTS
PHILIPS
TV
3104_301_3772.6
TR 08005_001
CL36532017_045.eps
230403

Mapping Large Signal Panel (Top Side)

0042	C8
0043	D3
0044	E7
0045	F5
1146	G2
1148	G3
1149	F2
1200	G10
1201	G6
1205	F8
1417	B8
1424	A10
1430	C9
1491	A7
1492	A10
1493	A8
1495	C10
1498	A10
1499	D9
1500	A2
1501	B2
1502	A3
1503	C3
1505	A2
1510	E5
1550	B3
1590	A3
1601	G1
1620	F1
1625	B10
1627	B10
1693	D9
1735	G5
1737	E7
1738	E7
1901	E10
1902	F10
1932	E8
1933	E10
1934	F10
1935	F9
1936	F7
1937	G7
1940	F9
1943	G10
1945	G5
1946	G5
1947	G4
1948	G8
1949	G2
1950	B1
1951	G7
1952	G9
1953	E7
1955	G8
1961	G7
1965	E9
1966	F8
1997	G10
2100	E3
2101	D2
2102	E2
2104	F3
2107	F3
2108	C2
2111	D1
2114	C2
2115	E2
2116	F1
2118	F2
2119	F3
2120	F2
2121	E2
2122	E2
2124	C2
2126	G2
2140	G3
2141	F2
2143	F2
2148	F1
2152	E3
2200	G9
2203	G9
2400	B6
2401	A7
2402	A10
2405	A7
2413	D8
2418	C8
2419	C7
2420	C8
2421	B6
2422	A5
2423	A6
2424	C5
2425	C7
2426	C6
2430	B7
2431	B7
2432	B6
2433	B6
2434	B6
2435	C8
2450	A10
2451	D10
2460	A10
2461	A10
2462	C10
2463	C9
2464	C10
2465	C9
2468	A9
2469	A8
2487	A7
2488	C8
2490	D6
2491	A6
2492	E8
2501	D4
2503	E3
2505	D5
2506	E5
2507	A2
2508	C5
2509	B5
2510	D3
2511	G5
2512	G4
2515	D4
2516	B4
2517	C4
2518	D3
2519	F4
2520	A3
2522	F4
2523	D4
2531	E4
2537	B4
2540	F4
2541	C3
2542	G5
2543	F5
2622	C10
2624	B10
2625	B10
2627	B10
2628	D10
2642	A6
2717	G5
2729	G6
2740	E7
2758	E7
2778	D6
2900	B1
2914	F10
2915	E9
2940	F7
2947	G2
2948	F7
2949	F7
3101	C2
3102	D2
3103	D2
3104	D2
3105	E2
3106	E1
3107	E2
3108	C2
3110	C2
3111	D2
3113	E2
3114	E1
3115	G1
3116	G2
3117	D2
3118	C2
3124	F1
3125	D1
3126	E1
3127	E1
3137	G1
3141	G3
3144	F2
3161	F2
3162	F2
3170	G2
3171	G2
3213	F7
3400	A9
3401	A7
3402	A7
3403	A7
3409	C9
3411	D8
3415	D8
3416	E8
3417	C8
3418	C6
3423	C7
3425	C6
3426	C6
3431	B7
3435	B6
3436	B5
3449	E9
3450	A10
3451	B10
3460	A10
3461	A10
3462	C9
3463	C9
3464	C9
3465	C9
3469	A10
3476	A7
3478	C6
3479	C6
3480	C6
3488	C5
3492	D7
3493	C6
3495	A6
3498	C10
3499	C10
3500	A4
3501	A4
3505	E3
3507	E5
3508	D4
3509	B2
3511	D3
3513	C3
3514	E4
3515	D5
3516	C3
3518	C3
3520	E4
3521	A2
3526	E5
3533	F4
3536	A4
3537	D5
3540	E4
3542	E5
3543	D3
3550	C4
3551	A3
3620	C10
3621	C10
3622	C10
3623	C10
3624	B10
3625	C10
3626	C10
3628	D9
3634	C10
3635	C9
3641	D10
3642	B10
3645	A7
3648	D10
3661	C10
3663	C10
3681	G1
3687	G1
3689	A8
3711	F6
3713	E6
3728	F6
3747	E6
3749	D7
3755	E6
3904	E9
3941	F10
3967	F10
3968	F10
3971	F10
3972	F10
3973	F10
3974	E10
3975	F10
3979	E10
3983	E10
3985	E10
3986	E10
3987	E10
3989	E10
3993	D10
3998	C1
5100	E2
5102	D1
5103	F3
5104	E2
5105	F2
5106	E1
5111	F2
5112	F2
5113	D2
5130	F2
5400	C5
5401	A7
5402	B8
5410	D9
5411	C8
5421	B7
5422	A6
5423	C7
5424	A6
5425	C7
5426	C8
5430	B10
5461	A10
5463	C9
5465	C8
5466	A8
5467	C6
5469	A8
5502	A5
5503	A3
5504	A3
5505	D4
5506	E5
5507	F4
5509	F5
5511	A4
5513	G5
5514	G4
5515	A3
5516	A5
5620	B10
5621	D10
5701	F6
5702	F6
5707	G6
5708	F6
5711	G5
5712	F6
5715	E7
5716	E6
5720	E7
5721	E6
5722	D7
5723	D7
5725	E5
5901	G9
5902	G3
5903	G1
5904	G8
6103	D2
6105	D2
6106	D1
6107	F3
6109	C2
6110	E2
6111	F3
6113	F2
6114	D2
6120	F1
6121	E1
6122	F1
6130	F3
6147	D3
6148	F2
6400	A9
6405	A7
6408	E8
6421	D8
6422	D7
6423	C7
6434	B6
6435	C6
6460	A10
6462	C9
6463	C9
6464	C9
6465	C9
6480	C7
6505	D4
6510	C3
6514	D5
6515	D5
6525	C5
6530	D3
6534	D3
6535	F3
6536	G4
6619	B10
6620	C10
6621	C10
6622	C10
6900	B1
7100	D1
7101	C2
7102	D3
7103	E1
7104	E1
7105	C1
7120	E2
7131	F3
7141	G4
7408	D8
7421	D8
7440	D9
7480	D6
7482	D8
7483	D8
7502	E3
7504	D4
7506	E4
7507	E4
7528	B2
7529	F4
7613	D9
7620	C10
7680	F1
7682	G1
7700	F6
7702	E6
7910	G7
7911	G9
7912	G9
9101	C2
9102	F3
9110	C2
9112	F2
9114	D2
9117	E2
9118	G2
9119	G2
9120	G2
9121	G3
9122	F1
9123	E3
9124	F2
9125	G2
9126	G3
9127	E2
9223	G7
9224	G7
9227	G6
9260	F10
9401	B7
9402	B5
9403	C5
9404	C5
9405	E9
9406	B7
9408	C10
9409	A10
9410	A8
9411	A10
9412	E8
9413	E9
9414	E9
9415	E9
9423	C7
9425	C6
9426	C8
9501	A2
9502	A2
9503	B4
9504	B5
9510	D4
9511	C4
9513	B5
9515	E5
9516	A3
9517	E4
9518	C3
9519	B4
9551	C4
9552	F4
9554	C4
9556	E5
9557	E4
9558	E3
9563	E5
9564	C3
9566	E4
9567	B4
9570	F5
9571	F5
9620	C10
9622	C10
9623	C9
9650	C10
9651	C10
9652	A10
9655	A10
9656	A10
9658	C8
9659	B6
9660	B6
9661	B5
9663	B5
9664	C10
9665	C8
9666	C8
9667	C7
9669	D7
9670	C7
9671	B6
9674	A8
9675	A10
9701	E6
9703	E6
9708	D7
9709	F6
9712	E6
9715	D6
9718	E6
9719	E6
9720	E6
9721	D6
9901	G7
9902	G8
9903	G8
9906	G10
9907	G7
9909	G6
9910	E8
9911	E8
9912	E8
9913	E8
9914	E8
9915	E9
9916	E8
9917	E8
9918	E10
9919	E9
9920	E9
9921	E9
9922	E10
9923	E10
9924	E10
9925	E10
9926	F10
9929	G9
9930	G8
9931	F9
9932	G9
9933	F10
9934	F9
9935	G9
9936	G9
9937	G8
9938	G9
9939	F8
9940	G9
9942	F7
9943	G8
9944	G8
9945	G8
9946	G9
9947	G8
9948	F8
9949	F7
9950	F7
9951	G1
9952	G6
9953	G6
9954	F8
9955	G6
9956	G6
9957	B1
9958	B1
9959	F9
9961	F8
9963	G10
9964	G4
9965	G4
9967	G6
9968	F8
9969	F9
9971	G10
9972	G10
9974	G6
9975	G4
9976	B1
9977	E9
9980	G6
9982	F8
9996	F7

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Mapping Large Signal Panel (Bottom Side)

0042	C3
0043	D8
0044	E4
0045	F6
1146	G9
1148	G8
1149	F9
1200	G1
1201	G5
1205	F3
1417	B4
1424	A1
1430	C2
1491	A3
1492	A1
1493	A3
1495	C2
1498	A1
1499	E2
1500	A9
1501	B9
1502	A8
1503	C8
1505	A8
1510	D6
1550	C8
1590	A8
1601	G10
1620	F10
1625	B1
1627	B1
1693	D2
1735	G5
1737	E4
1738	E4
1901	E1
1902	F1
1932	E3
1933	E2
1934	F2
1935	F2
1936	E4
1937	G4
1940	F2
1943	G1
1945	G6
1946	G6
1947	G7
1948	G3
1949	G9
1950	B10
1951	G4
1952	G2
1953	E3
1955	G3
1961	G4
1965	E2
1966	F3
1997	G1
2100	E8
2101	E9
2102	E9
2103	D9
2104	F8
2105	D9
2106	G9
2107	F8
2108	C9
2109	F10
2110	D10
2111	D10
2112	D9
2114	C9
2115	F9
2116	F10
2118	F8
2119	G8
2120	G9
2121	E9
2122	E9
2123	C10
2124	C9
2126	G9
2130	G8
2131	G9
2140	F8
2141	F9
2143	F9
2144	C10
2145	C9
2147	G8
2148	F10
2149	F10
2150	G9
2152	E8
2153	E10
2154	F9
2200	G2
2201	G1
2202	G1
2203	G2
2204	F3
2400	B5
2401	A4
2402	A2
2403	D2
2404	D2
2405	A4
2409	D3
2412	D3
2413	D3
2414	D3
2415	D3
2417	C3
2418	C3
2419	C4
2420	C3
2421	B5
2422	B5
2423	B5
2424	C5
2425	B4
2426	C5
2430	B4
2431	B4
2432	B5
2433	B5
2434	B5
2435	C4
2440	D2
2441	B2
2442	B2
2443	B2
2444	B1
2445	B1
2448	A5
2450	A1
2451	E1
2454	E2
2455	F3
2457	D1
2458	E3
2460	A1
2461	A1
2462	C1
2463	C2
2464	C1
2465	C2
2466	A5
2468	A2
2469	A3
2480	C5
2481	C5
2482	D5
2483	F2
2487	A4
2488	C4
2490	D5
2491	A5
2492	E3
2493	E2
2494	B3
2495	B4
2496	F2
2497	A5
2498	A5
2499	A5
2501	D7
2502	E7
2503	D8
2504	D8
2505	D6
2506	E6
2507	B9
2508	C6
2509	B6
2510	D8
2511	G6
2512	G7
2513	E7
2514	E7
2515	D7
2516	C7
2517	C7
2518	D8
2519	F7
2520	A8
2522	F7
2523	D7
2524	E7
2525	E7
2528	B9
2530	E7
2531	E7
2535	D6
2537	B7
2538	E7
2540	F7
2541	D8
2542	G7
2543	F6
2544	D7
2601	F10
2603	D1
2604	C1
2605	D1
2620	C1
2621	C1
2622	C1
2623	D2
2624	B1
2625	B1
2627	B1
2628	D1
2629	B1
2630	D1
2631	D1
2633	C1
2635	D2
2642	A4
2653	C1
2656	D2
2657	D2
2659	D2
2660	A5
2661	C1
2662	E2
2702	E5
2704	E5
2705	D5
2706	F5
2707	F5
2708	F5
2709	F6
2710	F6
2711	F5
2712	F6
2713	D5
2714	F6
2715	F6
2716	F5
2717	G5
2718	F5
2719	G6
2720	F5
2721	F5
2722	F5
2723	E4
2724	F5
2725	E5
2726	F5
2727	F5
2728	F5
2729	F5
2740	E4
2741	E4
2742	E4
2743	E4
2744	E5
2745	E4
2746	E5
2747	E4
2748	D5
2749	D5
2750	E4
2751	E4
2753	E4
2754	D4
2755	D4
2756	E4
2757	D4
2758	E4
2759	E4
2760	E4
2761	E5
2762	E4
2763	E4
2777	F5
2778	D5
2779	F5
2780	F6
2781	F6
2782	E4
2783	E5
2784	E4
2785	E5
2786	F6
2787	E5
2791	E5
2792	E5
2900	B10
2914	F1
2915	E2
2916	F1
2917	E2
2918	F1
2929	E4
2930	F2
2931	F4
2940	F4
2941	F3
2942	G3
2943	G3
2944	E1
2945	F4
2946	F4
2947	G9
2948	F4
2949	F4
2950	G1
2951	G2
2952	G6
2985	F1
2987	F1
2988	F1
2989	F1
2990	E1
2991	E1
2992	E1
2993	D1
2994	D1
2995	E1
2996	E1
2997	D1
2998	D1
2999	D1
3101	C9
3102	D9
3103	D9
3104	D9
3105	D9
3106	E10
3107	E10
3108	D9
3109	G10
3110	C9
3111	D9
3113	E9
3114	E10
3115	F9
3116	G9
3117	D9
3118	D9
3120	E9
3121	E9
3122	E9
3123	F10
3124	F10
3125	D10
3126	E10
3127	E10
3130	F9
3131	F9
3132	G9
3133	F9
3134	G8
3135	G9
3136	F8
3137	G10
3140	F9
3141	G8
3142	G8
3143	G8
3144	F9
3145	D9
3146	C9
3147	D9
3148	C9
3149	C10
3150	C9
3151	G9
3152	C9
3153	F9
3155	G8
3156	G9
3157	G8
3158	G9
3159	G8
3160	C9
3161	F9
3162	F9
3164	G9
3165	G9
3166	G10
3167	G10
3168	F10
3170	G9
3171	G9
3200	G1
3201	G1
3210	F5
3211	G4
3212	F5
3213	F4
3214	F3
3250	G2
3261	G1
3262	G1
3400	A2
3401	A4
3402	A4
3403	A4
3404	D3
3406	D3
3407	D3
3409	C2
3410	C3
3411	D3
3412	D2
3414	D3
3415	D3
3416	E3
3417	C3
3418	C5
3419	D2
3420	D2
3421	D2
3422	D2
3423	C4
3425	C5
3426	C5
3427	F2
3428	F3
3429	F2
3430	F3
3431	B4
3432	F2
3435	B5
3436	B6
3437	B2
3440	E2
3441	D2
3442	D2
3443	D2
3444	B2
3445	B2
3446	B2
3447	B2
3448	B1
3449	E2
3450	A1
3451	B1
3452	B1
3453	B1
3454	B2
3455	D2
3456	D2
3457	D2
3458	E3
3459	E3
3460	A1
3461	A1
3462	C2
3463	C2
3464	C2
3465	C2
3466	A5
3467	A4
3469	A1
3472	A5
3474	A5
3475	A6
3476	A4
3478	C5
3479	C5
3480	C5
3481	D5
3482	D5
3483	D5
3484	D4
3485	D3
3486	D2
3487	E2
3488	C6
3489	D5
3490	D4
3491	A5
3492	D4
3493	C5
3495	B5
3496	D4
3497	A4
3498	C2
3499	C1
3500	A7
3501	A8
3504	E7
3505	E8
3506	E7
3507	E6
3508	D7
3509	B9
3510	E7
3511	D8
3512	D8
3513	C8
3514	E6
3515	D6
3516	C8
3517	E7
3518	C8
3519	E7
3520	E7
3521	A9
3522	E7
3523	E7
3524	B9
3525	E7
3526	E6
3527	E7
3528	C9
3529	B9
3530	E7
3531	E7
3532	B9
3533	F7
3534	B9
3535	D6
3536	A7
3537	D6
3540	E7
3542	E6
3543	D8
3547	E8
3549	E6
3550	C8
3551	A8
3552	D7
3553	D7
3610	D2
3611	E2
3620	C1
3621	C1
3622	C1
3623	C1
3624	B1
3625	C1
3626	C1
3627	B1
3628	D2
3629	B1
3630	C1
3631	D1
3632	D1
3633	D1
3634	C1
3635	C2
3636	D2
3637	D1
3638	C1
3639	D1
3640	D1
3641	D1
3642	B1
3643	C1
3644	A4
3645	A4
3646	B1
3647	B1
3648	D1
3649	F10
3652	A5
3653	B1
3654	E2
3655	D2
3656	E2
3657	D2
3658	E2
3659	D2
3660	D1
3661	C1
3662	D1
3663	B1
3664	D2
3665	A5
3681	G10
3682	G10
3683	G10
3684	F10
3685	G10
3686	G10
3687	G10
3688	C5
3689	A3
3690	C1
3701	E5
3702	E5
3703	D5
3704	E5
3705	F5
3706	F5
3707	F5
3708	F6
3709	G6
3710	F5
3711	F5
3712	F5
3713	E6
3714	E5
3715	D5
3716	D5
3717	G5
3718	G5
3719	E5
3720	D4
3721	F5
3722	F5
3723	F5
3724	F5
3725	F5
3726	F5
3727	G6
3728	F5
3729	E3
3730	D4
3731	E5
3732	E4
3733	E4
3734	E4
3735	E4
3736	E5
3737	E4
3738	E4
3739	E4
3740	E4
3741	E4
3742	E4
3743	G5
3744	E4
3745	G5
3746	E6
3747	D5
3748	D5
3749	D4
3750	G6
3751	E4
3752	E4
3755	E5
3760	F5
3790	E5
3791	F5
3792	E5
3793	F5
3794	D4
3795	D4
3796	D4
3797	E4
3798	E6
3900	B10
3901	B10
3902	B10
3903	F2
3904	E2
3907	G2
3910	G2
3928	F1
3929	F1
3930	G1
3938	F1
3939	F1
3940	F1
3941	G1
3942	E3
3943	F2
3945	F2
3959	D1
3960	D1
3961	F1
3962	F1
3963	F1
3964	F1
3965	F1
3966	F1
3967	F1
3968	F1
3969	F1
3970	F1
3971	F1
3972	F1
3973	E1
3974	F1
3975	F1
3976	F1
3977	F1
3978	E1
3979	E1
3980	E1
3981	E1
3982	E1
3983	E1
3984	E1
3985	E1
3986	E1
3987	E1
3988	E1
3989	E1
3990	D1
3991	E1
3992	D1
3993	D1
3994	D1
3995	D1
3996	D1
3997	D1
3998	C10
3999	B10
5100	E9
5102	D10
5103	F8
5104	E8
5105	F9
5106	E10
5111	F9
5112	F9
5113	D9
5130	F9
5400	C6
5401	A4
5402	B3
5410	D3
5411	C3
5421	B4
5422	A5
5423	C4
5424	A5
5425	C5
5426	C4
5430	B2
5461	A1
5463	C2
5465	C3
5466	A3
5467	C4
5469	A3
5502	B7
5503	B8
5504	B8
5505	D7
5506	F6
5507	F7
5509	F7
5511	A6
5513	F6
5514	F7
5515	A8
5516	A7
5620	B1
5621	D1
5701	F6
5702	F5
5703	F5
5707	G5
5708	F5
5711	G6
5712	F5
5715	D4
5716	D5
5720	E4
5721	E5
5722	D4
5723	D4
5725	E6
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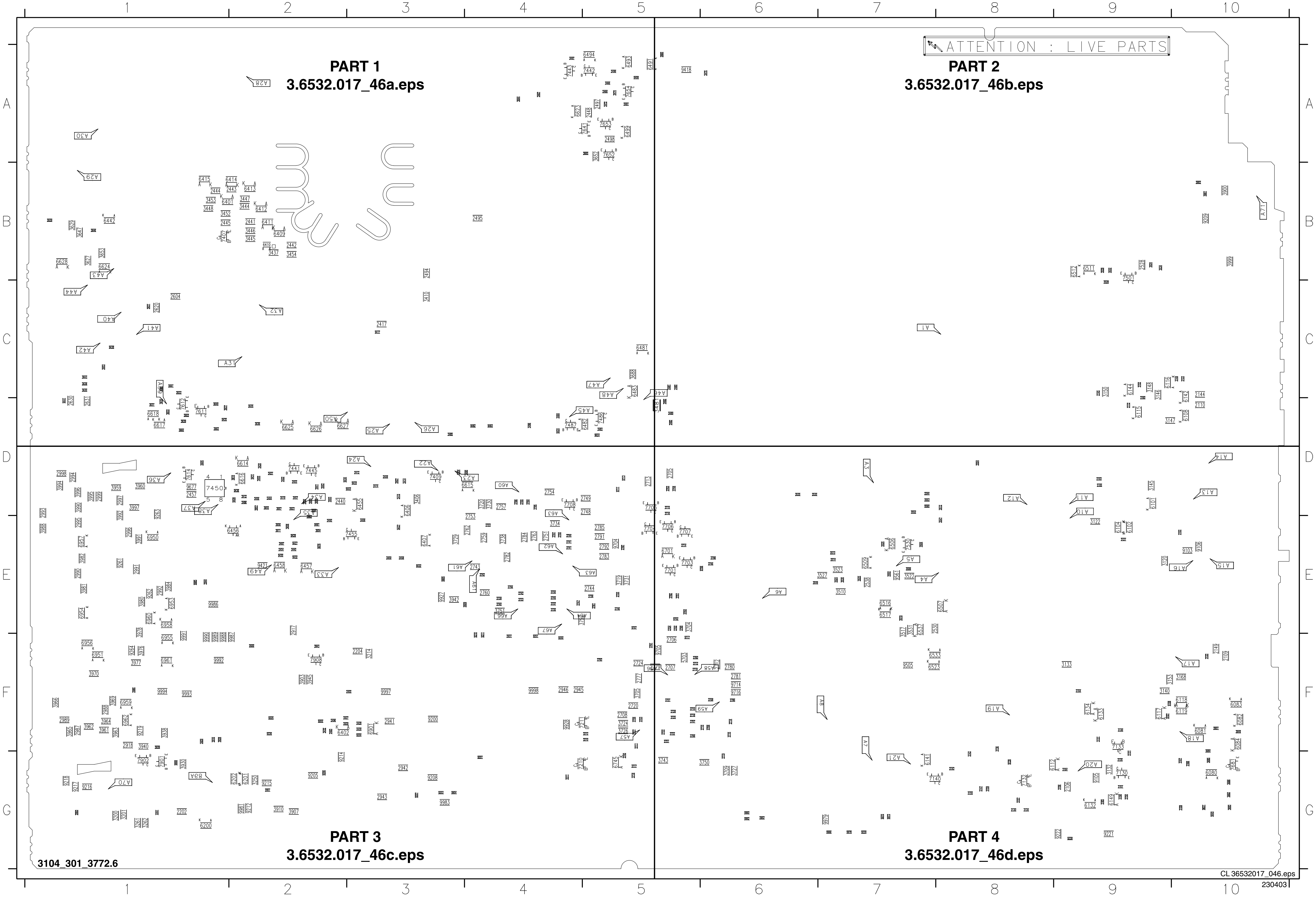
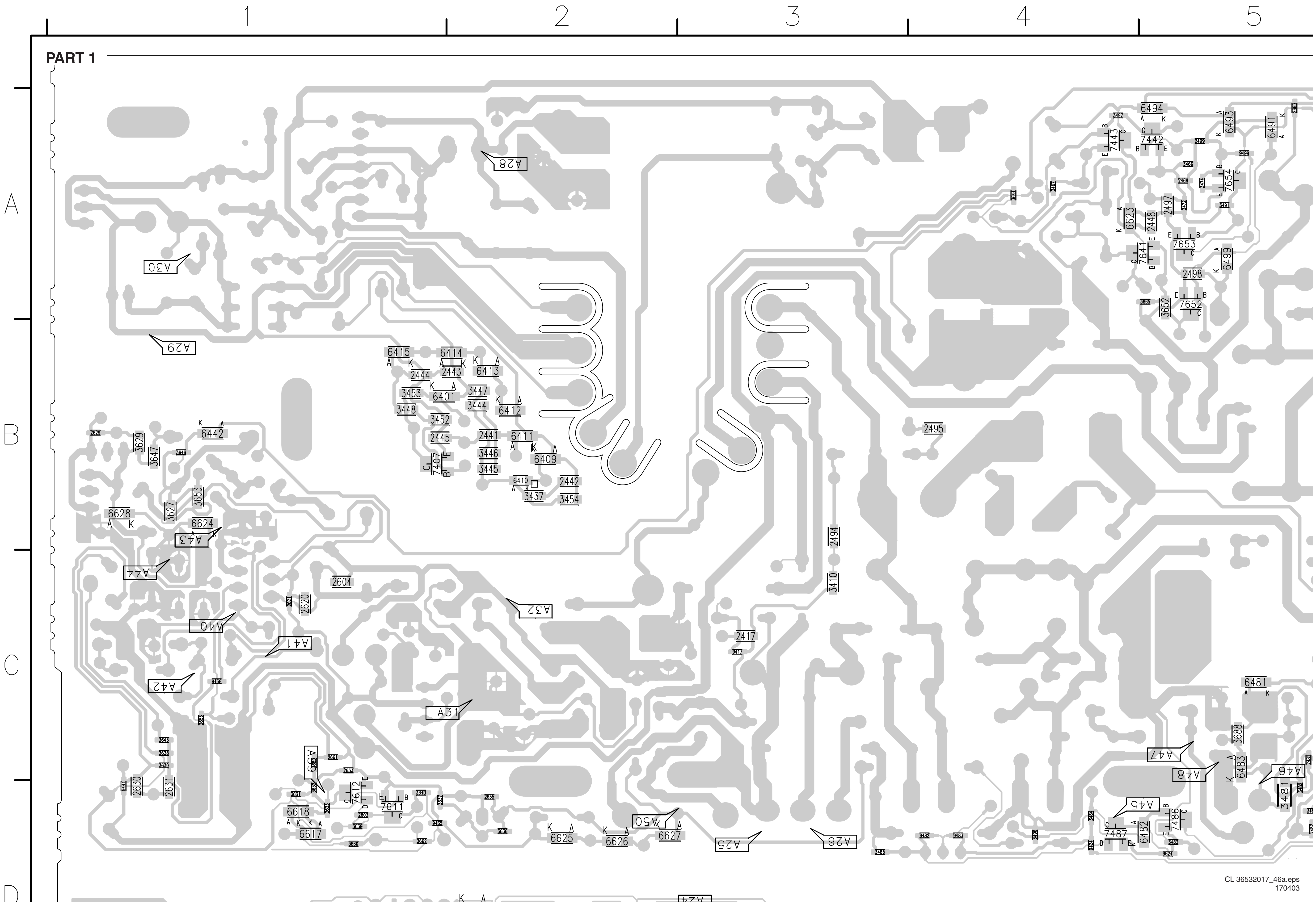
5902	G8
5903	G10
5904	G3
6080	G10
6081	F10
6082	F10
6083	F10
6084	F10
6101	D9
6102	E9
6103	D9
6104	E9
6105	D9
6106	D10
6107	F8
6108	D10
6109	C9
6110	F9
6111	F8
6112	G9
6113	F9
6114	D9
6115	D9
6116	C9
6117	F9
6118	F10
6119	F10
6120	F10
6121	E10
6122	E10
6130	F8
6132	G9
6133	F9
6134	F9
6141	G7
6142	C10
6144	C9
6147	D8
6148	F9
6149	G9
6200	G1
6201	G2
6202	G2
6400	A2
6401	B1
6402	F2
6405	A4
6406	D3
6407	E3
6408	E3
6409	B2
6410	B2
6411	B2
6412	B2
6413	B2
6414	B2
6415	B1
6421	D4
6422	D4
6423	C4
6434	B5
6435	C5
6442	B1
6455	D3
6456	E1
6457	E2
6458	E2
6460	A1
6462	C2
6463	C2
6464	C2
6465	C2
6480	C4
6481	C5
6482	D5
6483	C5
6491	A5
6493	A5
6494	A5
6499	A5
6505	D7
6506	E7
6507	E7
6509	E7
6510	C8
6511	B9
6512	C9
6514	D6
6515	D6
6516	E7
6517	E7
6523	F7
6525	D6
6530	D8
6533	F8
6534	D8
6535	F8
6536	G7
6537	E7
6614	D2
6615	D3
6616	D2
6617	D1
6618	D1
6619	B1
6620	C1
6621	C1
6622	C1
6623	A5
6624	B1
6625	D2
6626	D2
6627	D2
6628	B1
6701	E5
6745	G5
6900	B10
6901	F3
6950	E1
6951	F1
6953	E1
6954	E1
6955	E1
6956	F1
6957	E1
6958	E1
6959	F1
6960	E1
6961	F1
6962	F1
7100	D10
7101	D9
7102	D8
7103	E10
7104	E10
7105	C10
7120	E9
7130	G9
7131	F8
7132	G8
7133	F9
7140	G7
7141	G7
7210	G5
7211	F5
7407	B1
7408	D3
7409	D3
7421	C3
7440	D2
7441	D2
7442	A5
7443	A4
7445	D2
7450	D1
7455	E3
7480	D5
7482	D3
7483	D3
7486	D5
7487	D4
7501	C9
7502	E8
7504	D7
7506	E7
7507	E8
7528	C9
7529	E7
7530	E7
7611	D1
7612	C1
7613	D2
7614	D1
7620	B1
7641	A4
7652	B5
7653	A5
7654	A5
7680	F10
7681	G10
7682	G10
7700	F5
7701	E5
7702	E4
7703	E5
7704	E5
7705	D5
7706	E5
7707	E5
7708	D4
7901	G1
7902	G1
7908	F2
7910	G4
7911	G2
7912	G2
9101	C9
9102	F8
9103	E10
9105	G9
9106	E10
9107	F9
9108	F9
9110	C9
9112	F9
9114	D9
9117	E9
9118	G9
9119	G9
9120	G9
9121	G8
9122	F9
9123	E8
9124	F9
9125	G9
9126	G8
9127	E9
9128	G8
9200	F3
9201	G4
9202	F2
9203	G3
9204	F3
9205	G2
9206	G2
9207	G3
9208	G3
9209	B10
9210	F4
9211	F4
9212	G2
9214	G2
9215	G2
9216	G1
9217	G1
9218	G1
9219	F1
9221	G9
9222	G9
9223	G4
9224	G4
9225	F2
9226	F2
9227	G5
9228	G9
9229	G7
9250	F4
9251	F4
9260	F1
9261	E1
9262	E1
9263	D1
9264	F1
9401	B4
9402	B6
9403	C6
9404	C6
9405	E2
9406	B4
9408	C1
9409	A1
9410	A3
9411	A1
9412	E3
9413	E2
9414	E2
9415	E2
9417	C3
9418	A5
9421	E2
9422	E3
9423	C4
9424	D4
9425	C5
9426	C3
9427	E2
9428	D2
9429	E2
9430	E2
9431	D2
9432	E2
9433	D3
9434	D2
9435	D1
9436	D2
9437	E3
9438	C1
9440	G10
9441	D1
9443	D3
9481	E2
9482	D4
9483	D4
9499	A5
9501	A9
9502	A9
9503	B7
9504	B6
9505	F7
9510	D7
9511	C7
9513	B6
9515	E6
9516	A7
9517	E7
9518	B8
9519	B7
9551	C7
9552	F7
9554	C7
9556	E6
9557	E7
9558	E8
9560	D7
9561	E7
9563	E6
9564	C8
9566	E7
9567	B7
9570	F6
9571	F6
9620	B1
9621	G10
9622	C1
9623	C3
9624	D5
9650	C1
9651	C1
9652	A1
9655	A1
9656	A1
9658	C3
9659	B5
9660	B5
9661	B6
9663	B6
9664	C1
9665	C3
9666	C3
9667	C4
9669	D4
9670	C4
9671	B5
9674	A3
9675	A1
9676	E2
9677	D1
9701	E5
9702	E5
9703	E5
9704	E5
9705	F5
9706	E6
9707	E5
9708	D4
9709	F5
9711	D5
9712	E5
9713	D5
9714	F6
9715	D5
9716	F6
9717	F5
9718	E5
9719	E5
9720	E5
9721	D5
9901	G4
9902	G3
9903	G3
9904	G3
9905	E3
9906	G1
9907	G4
9908	G1
9909	G5
9910	E3
9911	E3
9912	E3
9913	E3
9914	E3
9915	E2
9916	E3
9917	E3
9918	E1
9919	E2
9920	E2
9921	E2
9922	E1
9923	E1
9924	E1
9925	F1
9926	F1
9927	E3
9928	F4
9929	G2
9930	G3
9931	F2
9932	G2
9933	F1
9934	F2
9935	G2
9936	G2
9937	G3
9938	G2
9939	F3
9940	G2
9942	F4
9943	G3
9944	G3
9945	G3
9946	G2
9947	G3
9948	F3
9949	F4
9950	F4
9951	G10
9952	G5
9953	G5
9954	F3
9955	G5
9956	G5
9957	B10
9958	B10
9959	F2
9960	G6
9961	F3
9962	G6
9963	G1
9964	G7
9965	G7
9966	G7
9967	G5
9968	F3
9969	F2
9970	G7
9971	G1
9972	G1
9973	G7
9974	G5
9975	G7
9976	B10
9977	E2
9978	G7
9979	G7
9980	G5
9981	G2
9982	F3
9983	G3
9985	E1
9986	E1
9987	F2
9988	F1
9989	F1
9990	F1
9991	F1
9992	F1
9993	F1
9994	F1
9996	F4
9997	F3
9998	F4

CL36532017_46m.eps
230403

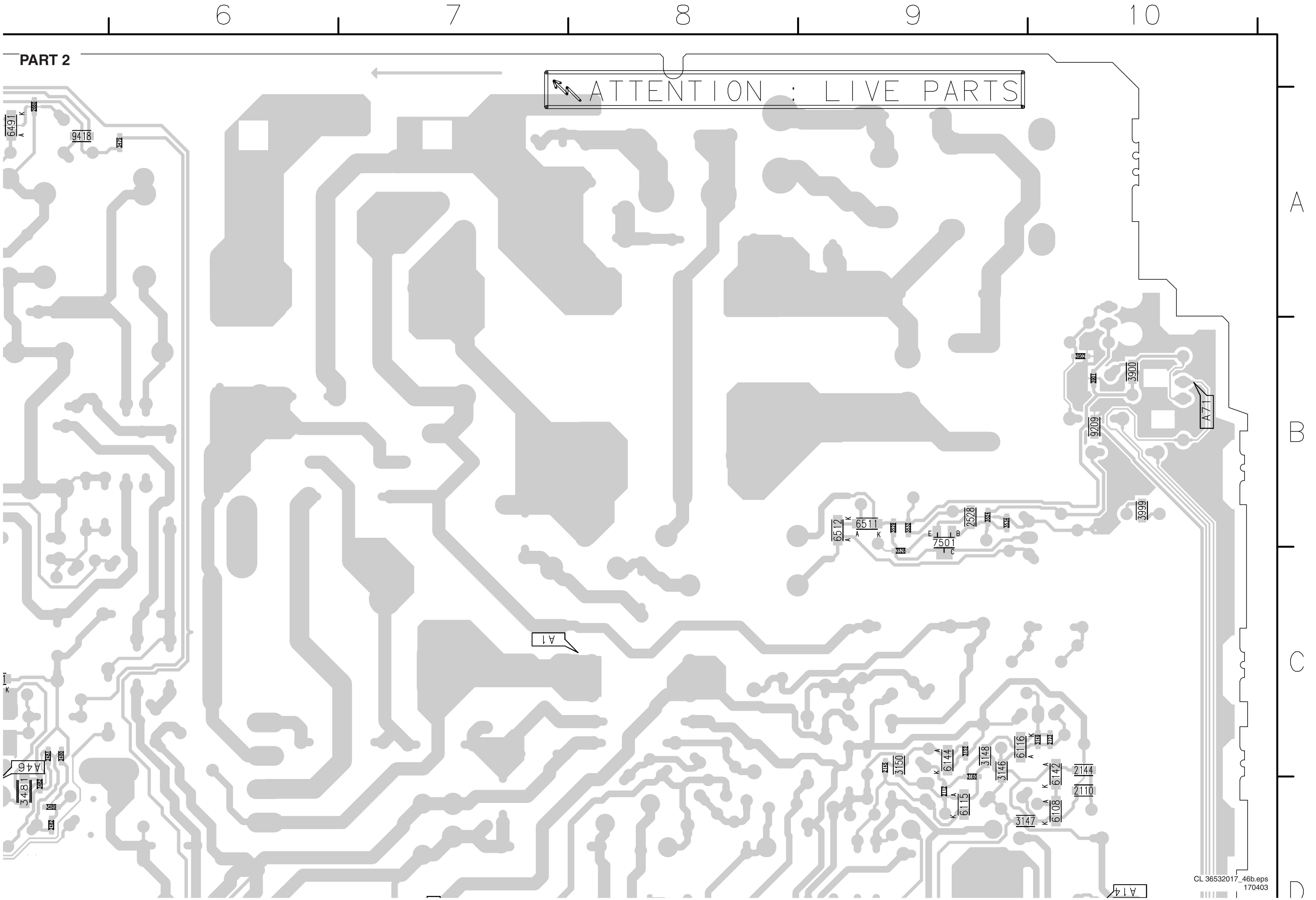
Layout Large Signal Panel (Overview Bottom Side)


1 2 3 4 5 6 7 8 9 10
A B C D E F G
ATTENTION : LIVE PARTS
PART 1
3.6532.017_46a.eps
PART 2
3.6532.017_46b.eps
PART 3
3.6532.017_46c.eps
PART 4
3.6532.017_46d.eps
3104_301_3772.6
CL 36532017_046.eps
230403

Layout Large Signal Panel (Part 1 Bottom Side)

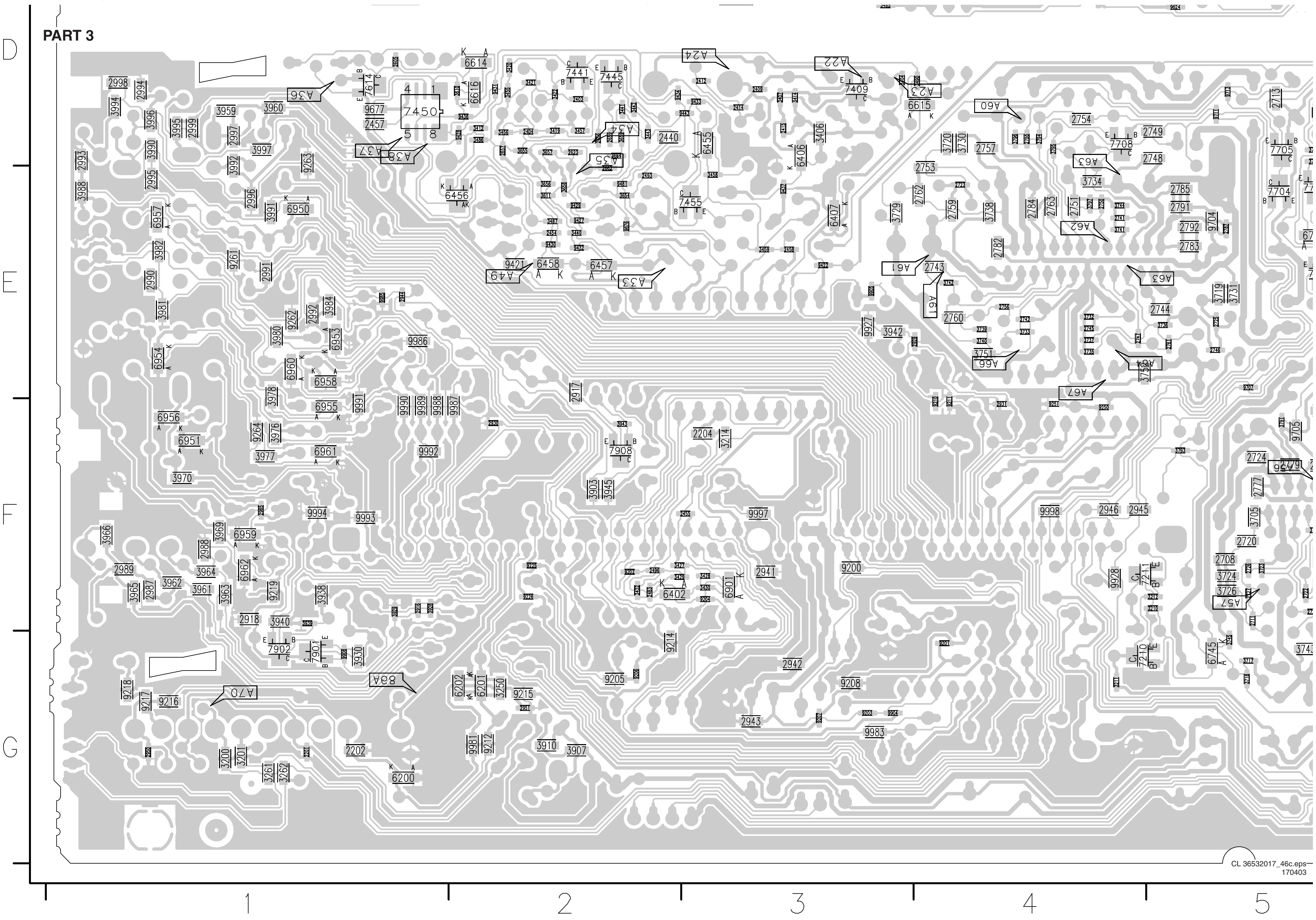

1
2
3
4
5
A
B
C
D
PART 1
A28
A30
A29
A32
A31
A40
A41
A42
A43
A44
A39
A50
A25
A26
A24
A45
A46
A47
A48
6494
6493
6491
7443
7442
7654
6623
2448
2497
7641
7653
6499
2498
3652
7652
6415
6414
6413
2444
2443
3453
6401
3447
3444
6412
3448
3452
2445
2441
6411
3446
3445
6409
7407
6410
3437
2442
3454
6442
3629
3647
6628
3627
3653
6624
2604
2620
2495
2494
3410
2417
6481
3688
6483
3481
7486
7487
6482
6625
6626
6627
2630
2631
6618
6617
7612
7611
CL 36532017_46a.eps
170403

Layout Large Signal Panel (Part 2 Bottom Side)


6
7
8
9
10
A
B
C
D
PART 2
ATTENTION : LIVE PARTS
6491
9418
3900
A71
9209
3999
6512
6511
7501
2528
A1
A46
3481
3150
6144
3148
3146
6116
6142
2144
2110
6115
6108
3147
A14

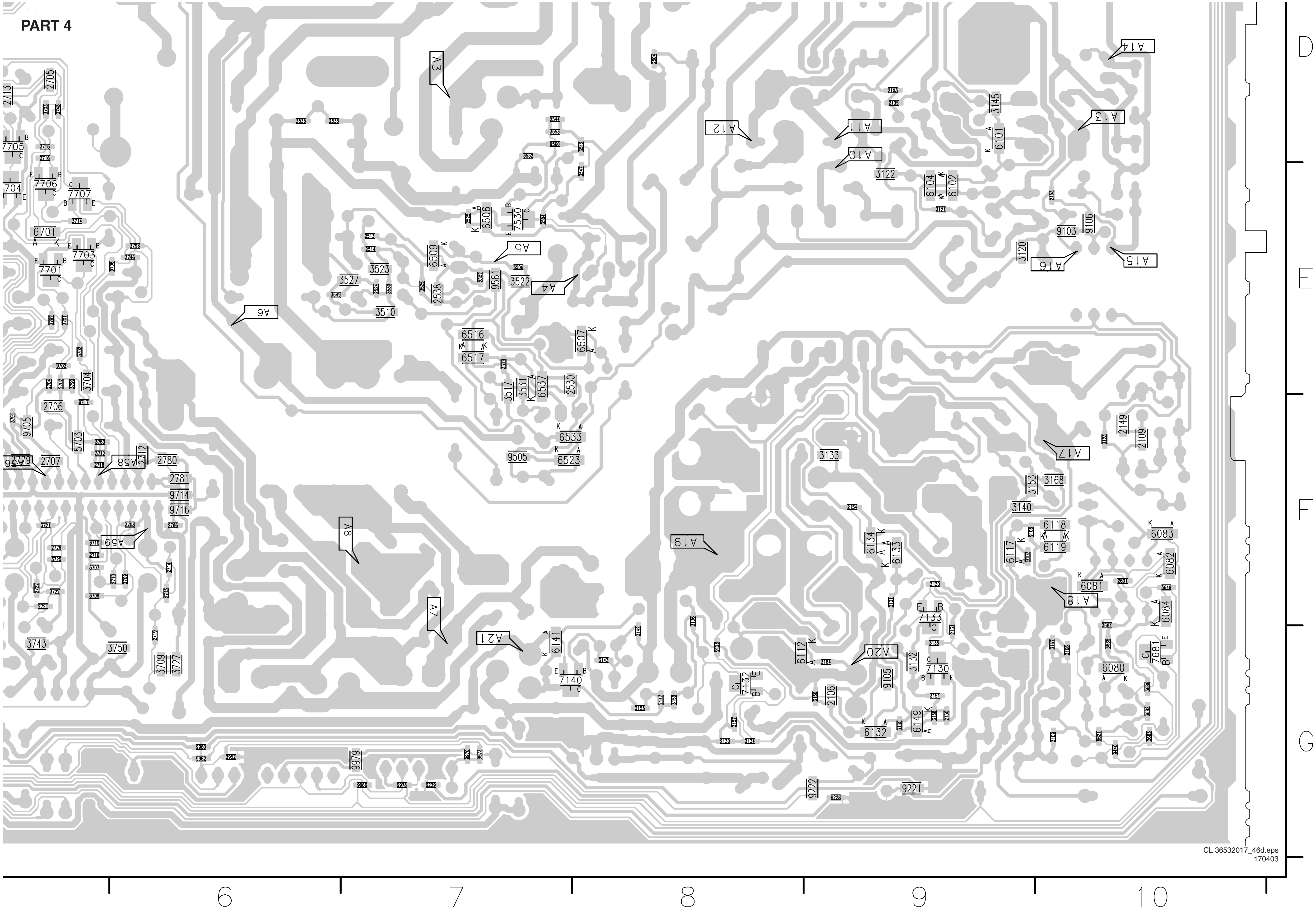
CL 36532017_46b.eps
170403

Layout Large Signal Panel (Part 3 Bottom Side)


PART 3
D
E
F
G
1
2
3
4
5
7450
6614
7441
7445
7409
6615
A24
A22
A23
A36
A37
A38
A60
A63
A62
A61
A49
A33
A35
A34
A66
A67
A64
A57
A70
A68
CL 36532017_46c.eps
170403

Layout Large Signal Panel (Part 4 Bottom Side)

PART 4


D
E
F
G
6
7
8
9
10
CL 36532017_46d.eps
170403

Small Signal Board: SIM Connector (Male)

v1	G3
v2	G3
v3	G3
v4	G3
v5	G3
v6	G3
v7	G4
v8	G4
v9	G4
v10	G4
v11	G5
v12	G5
v13	G5
v14	G5
v15	G5
v16	G5
v17	G6
v18	G6
v19	G6
v20	G6
v21	G6
v22	G6
v23	G7
v24	G7
v25	G7
v26	G7
v27	G7
v28	G7
v29	G8
v30	G8
v31	G8
v32	G8
v35	G9
v36	G9
v37	G10
v38	G10
v39	G10
v40	G10
v41	G10
v42	G10
v43	G11
v44	G11
v45	G11
v46	G11
v47	G11
v48	G11
v49	G12
v50	G12
v51	G12
v52	G12
v53	G12
v54	G12
v55	G12
v56	G13
v57	G13
v58	G13
v59	G13
v60	G13
v61	G13
v62	G14
v63	G14
v64	G14
v65	G8
v71	G12
0001	C1
0002	C1
0003	C1
0004	C2
0005	D1
0006	D1
0007	D1
0008	D2
0009	E1
0010	E1
0011	E1
0012	E2
0013	E2
1000	H2
2900	G14
2901	G13
2902	G14
2903	G14
2904	G10
2905	G8
2906	G9
2907	G5
2908	G1
2909	G1
2910	G1
2911	G2
2912	G2
5900	F1
5901	F1
5902	F2
5903	F2
5904	F2
5910	F14
5911	F14
5912	F9
5913	F13
5914	F14
5915	F8
5917	F10
5918	F9
5919	F10
5920	F5
6926	D4
6927	E4
6928	E4
6929	E5
6956	D4
6957	D5
9901	F3
9902	F3
9903	F3
9904	F3
9905	F3
9906	F4
9907	F4
9908	F4
9909	F3
9910	G3
9911	G3
9912	G3
9913	G3
9914	G3
9915	G4
9916	G4
9917	G4
9918	G2
9919	F5
9920	F5
9921	F5
9922	G5
9923	G5
9924	G5
9925	D6
9927	F5
9928	F6
9929	F7
9930	G5
9934	G5
9935	F8
9936	G8
9937	F11
9938	F11
9939	F12
9940	G11
9941	G11
9942	G12
9944	D6
9945	D6
9946	F6
9947	F6
9948	F7
9949	F7
9950	F7
9951	F7
9952	F7
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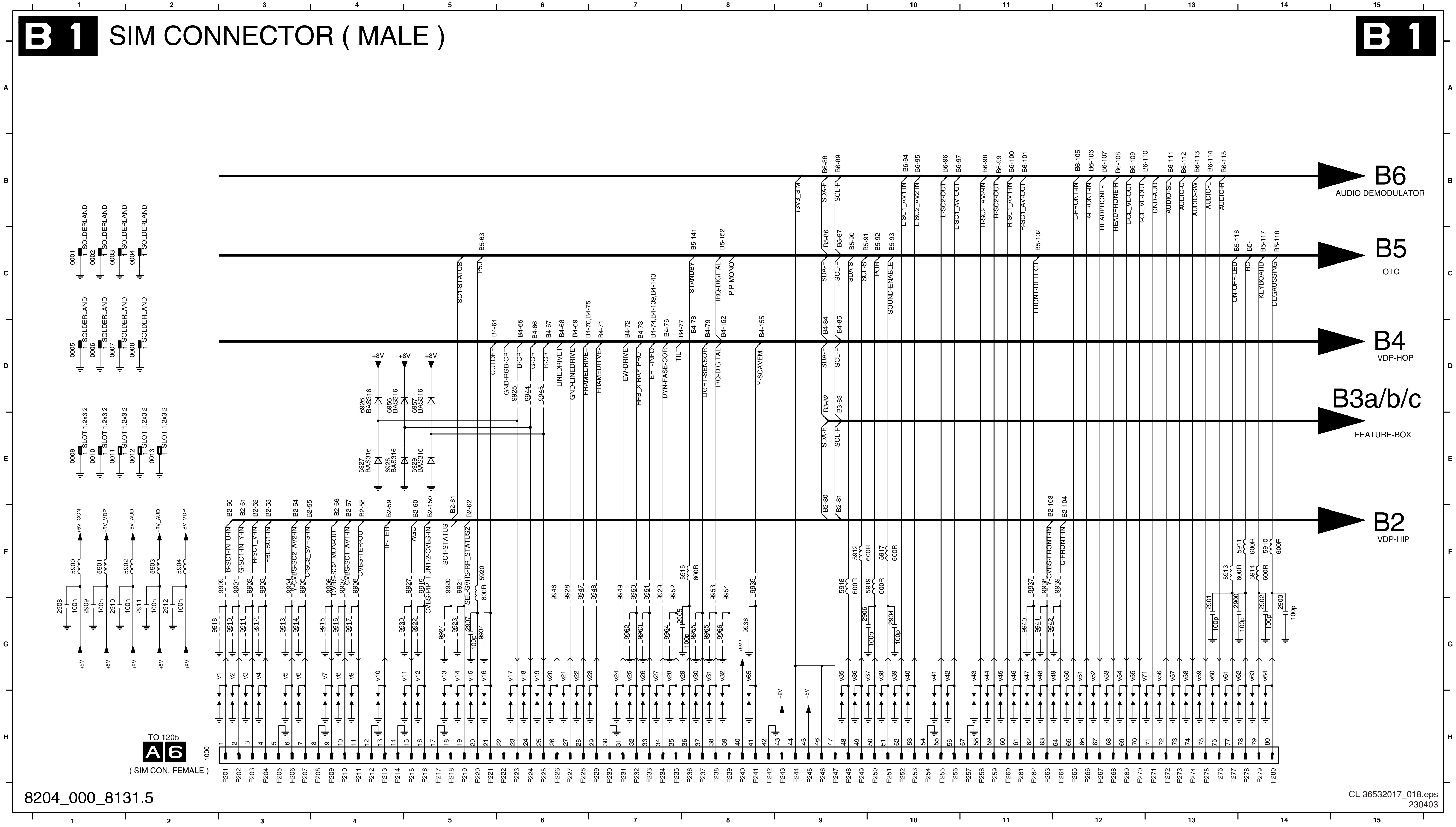
9955	G8
9962	G7
9963	G7
9964	G7
9965	G8
9966	G8

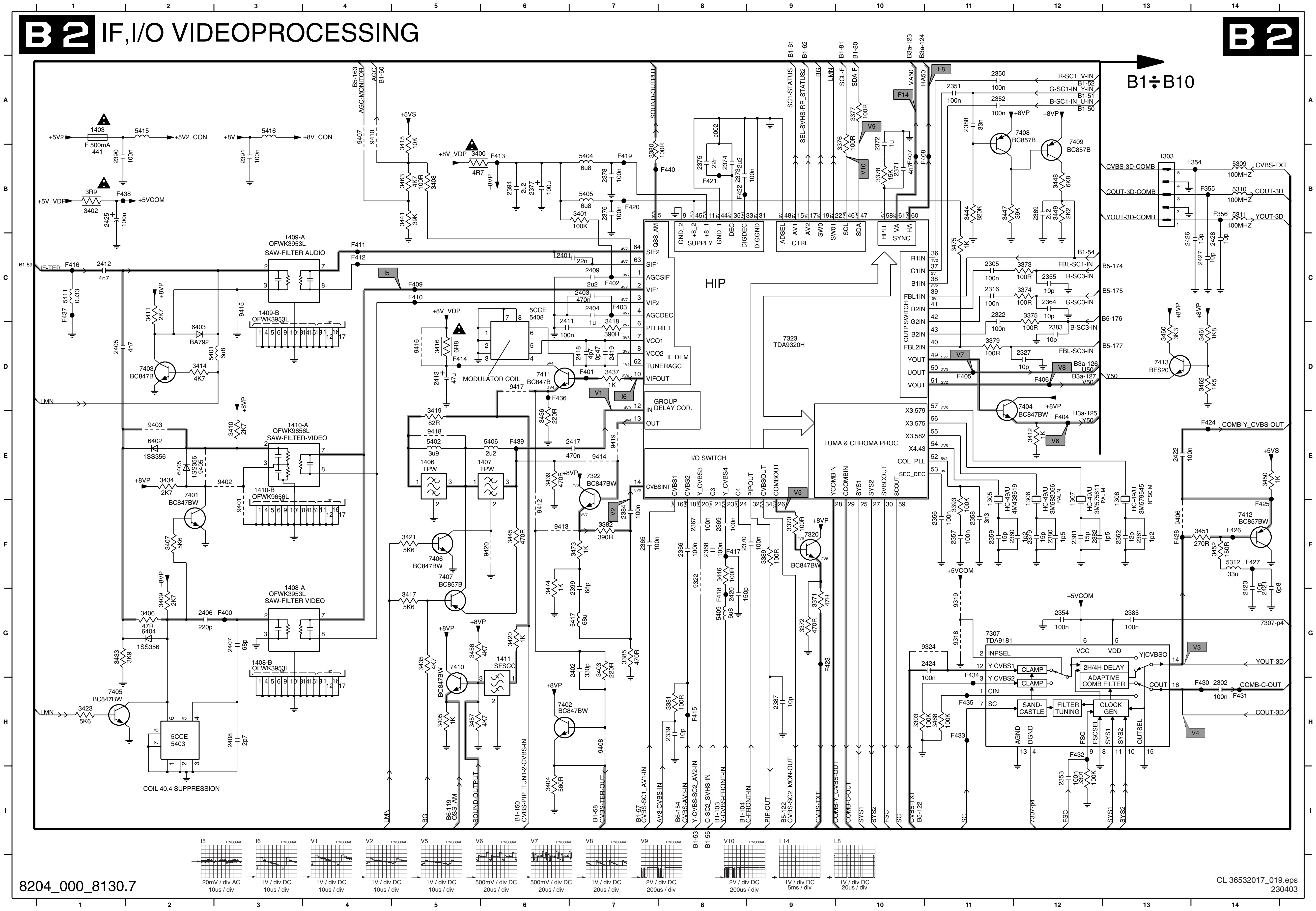

B1
SIM CONNECTOR (MALE)
B6
AUDIO DEMODULATOR
B5
OTC
B4
VDP-HOP
B3a/b/c
FEATURE-BOX
B2
VDP-HIP
SOLDERLAND
SLOT 1.2x3.2
+8V
BAS316
+5V
100n
100p
600R
TO 1205
A6
(SIM CON. FEMALE)
1000
SC1-STATUS
STANDBY
IRQ-DIGITAL
PIP-MONO
SDA-F
SCL-F
SDA-S
SCL-S
POR
SOUND-ENABLE
FRONT-DETECT
ON-OFF-LED
RC
KEYBOARD
DEGAUSSING
CUTOFF
GND-RGB-CRT
B-CRT
G-CRT
R-CRT
LINEDRIVE1
GND-LINEDRIVE
FRAMEDRIVE+
FRAMEDRIVE-
EW-DRIVE
HFB_X-RAY-PROT
EHT-INFO
DYN-FASE-COR
TILT
LIGHT-SENSOR
Y-SCAVEM
L-SC1_AV1-IN
L-SC2_AV2-IN
L-SC2-OUT
L-SC1_AV-OUT
R-SC2_AV2-IN
R-SC2-OUT
R-SC1_AV1-IN
R-SC1_AV-OUT
L-FRONT-IN
R-FRONT-IN
HEADPHONE-L
HEADPHONE-R
L-CL_VL-OUT
R-CL_VL-OUT
GND-AUD
AUDIO-SL
AUDIO-C
AUDIO-SW
AUDIO-L
AUDIO-R
B-SC1-IN_U-IN
G-SC1-IN_Y-IN
R-SC1_V-IN
FBL-SC1-IN
CVBS-SC2_AV2-IN
Y-SC2_SVHS-IN
C-SC2_SVHS-IN
CVBS-SC2_MON-OUT
CVBS-SC1_AV1-IN
CVBS-TER-OUT
IF-TER
AGC
CVBS-PIP_TUN1-2-CVBS-IN
SC1-STATUS
SEL-SVHS-RR_STATUS2
Y-CVBS-FRONT-IN
C-FRONT-IN

8204_000_8131.5

CL 36532017_018.eps
230403

Small Signal Board: IF. I/O Video Processing

B2 IF,I/O VIDEOPROCESSING

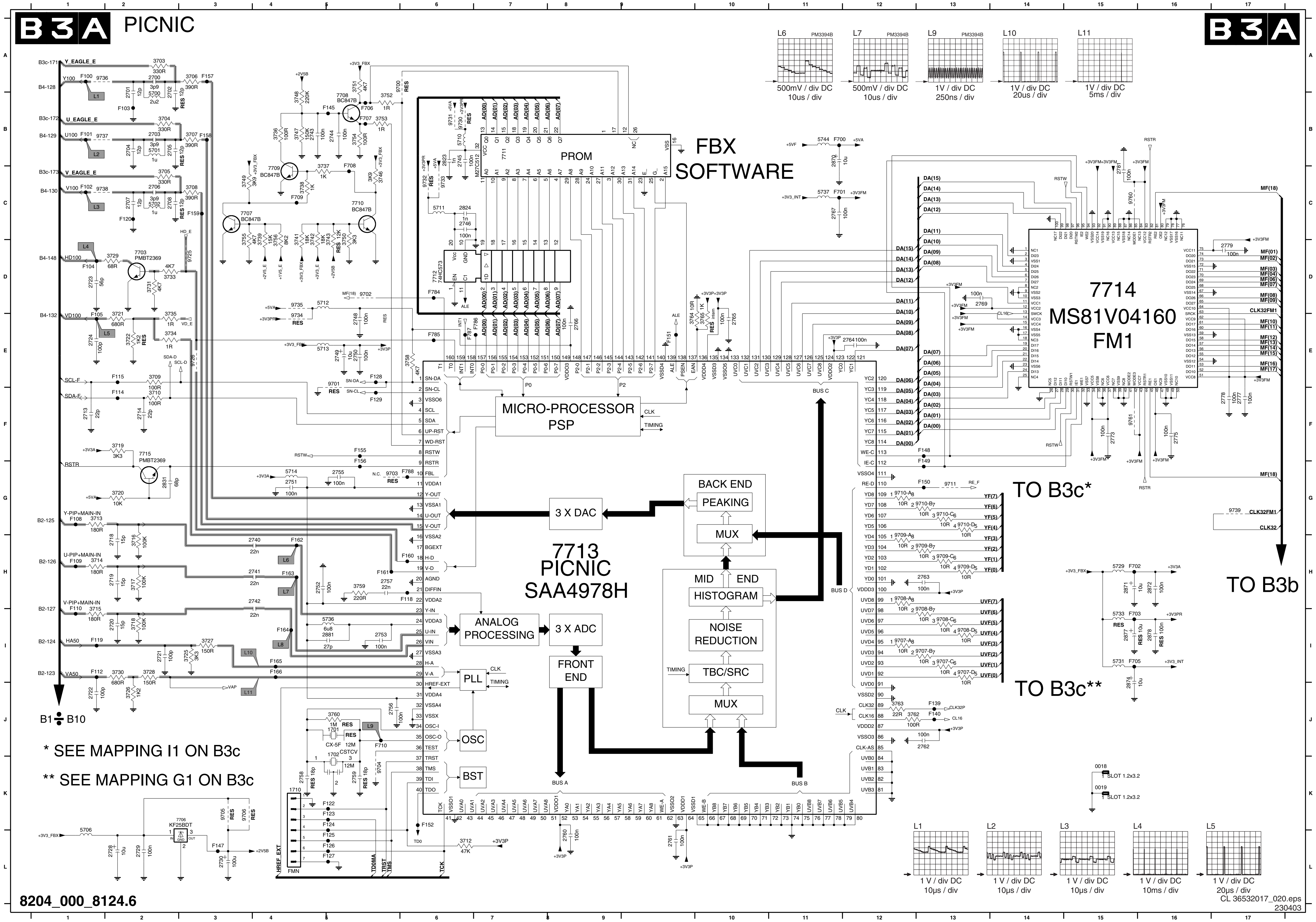

B2
B1÷B10
HIP
7323 TDA9320H
IF DEM
GROUP DELAY COR.
I/O SWITCH
LUMA & CHROMA PROC.
OUTP SWITCH
SUPPLY
CTRL
SYNC
7307 TDA9181
INPSEL
CLAMP
2H/4H DELAY
ADAPTIVE COMB FILTER
SAND-CASTLE
FILTER TUNING
CLOCK GEN
1409-A OFWK3953L SAW-FILTER AUDIO
1409-B OFWK3953L
1410-A OFWK9656L SAW-FILTER-VIDEO
1410-B OFWK9656L
1408-A OFWK3953L SAW-FILTER VIDEO
1408-B OFWK3953L
5CCE 5408
MODULATOR COIL
5CCE 5403
COIL 40.4 SUPPRESSION
1406 TPW
1407 TPW
1411 SFSCC
1303
+5V2
+5V2_CON
+8V
+8V_CON
+5V_VDP
+5VCOM
+8V_VDP
+8VP
+5VS
IF-TER
LMN
SOUND-OUTPUT
AGC-MONITOR
AGC
CVBS-3D-COMB
COUT-3D-COMB
YOUT-3D-COMB
CVBS-TXT
COUT-3D
YOUT-3D
COMB-Y_CVBS-OUT
COMB-C-OUT
R-SC1_V-IN
G-SC1-IN_Y-IN
B-SC1-IN_U-IN
FBL-SC1-IN
R-SC3-IN
G-SC3-IN
B-SC3-IN
FBL-SC3-IN
U50
V50
Y50
SC1-STATUS
SEL-SVHS-RR_STATUS2
BG
LMN
SCL-F
SDA-F
VA50
HA50
CVBS-SC1_AV1-IN
AV3-CVBS-IN
CVBS-AV3-IN
Y-CVBS-SC2_AV2-IN
C-SC2_SVHS-IN
Y-CVBS-FRONT-IN
C-FRONT-IN
PIP-OUT
CVBS-SC2_MON-OUT
CVBS-TXT
COMB-Y_CVBS-OUT
COMB-C-OUT
SYS1
SYS2
FSC
SC
CVBS-PIP_TUN1-2-CVBS-IN
CVBS-TER-OUT
QSS_AM
I5 I6 V1 V2 V5 V6 V7 V8 V9 V10 F14 L8
20mV / div AC 10us / div
1V / div DC 10us / div
1V / div DC 10us / div
1V / div DC 10us / div
1V / div DC 10us / div
500mV / div DC 20us / div
500mV / div DC 20us / div
1V / div DC 20us / div
2V / div DC 200us / div
2V / div DC 200us / div
1V / div DC 5ms / div
1V / div DC 20us / div

8204_000_8130.7

CL 36532017_019.eps
230403

1303	B13	3412
1305	E11	3414
1306	E12	3415
1307	E12	3416
1308	E13	3417
1403	A1	3418
1406	E5	3419
1407	E5	3420
1408-A	F4	3421
1408-B	G3	3423
1409-A	C4	3433
1409-B	C3	3434
1410-A	E4	3435
1410-B	E3	3436
1411	G6	3437
2302	H14	3439
2305	C11	3441
2316	C11	3444
2322	C11	3445
2327	D12	3446
2339	H8	3447
2350	A11	3448
2351	A11	3449
2352	A11	3450
2353	I12	3451
2354	G12	3452
2355	C12	3456
2356	F11	3457
2357	F11	3460
2358	F11	3461
2359	F11	3462
2360	F12	3463
2361	F13	3468
2362	F13	3473
2364	C12	3474
2365	F7	3475
2366	F8	5309
2367	F8	5310
2368	F8	5311
2369	F8	5312
2370	F8	5401
2371	B10	5402
2372	A10	5403
2373	B8	5404
2374	B8	5405
2375	B8	5406
2376	B7	5408
2377	B6	5409
2378	B7	5411
2379	F12	5415
2380	F12	5416
2381	F12	5417
2382	F12	6402
2383	D12	6403
2384	F7	6404
2385	G13	6405
2387	H9	7307
2388	A11	7320
2389	B12	7322
2390	B1	7323
2391	B3	7401
2394	B6	7402
2399	F7	7403
2401	C6	7404
2402	G7	7405
2403	C7	7406
2404	C7	7407
2405	D1	7408
2406	G2	7409
2407	G3	7410
2408	H3	7411
2409	C7	7412
2411	D6	7413
2412	C1	9318
2413	D5	9319
2417	E7	9322
2418	D7	9324
2419	D7	9401
2420	G8	9402
2421	F14	9403
2422	E13	9405
2423	F14	9406
2424	G11	9407
2425	B1	9408
2426	C13	9410
2427	C14	9412
2428	C14	9413
3301	I12	9414
3303	H10	9415
3370	F9	9416
3371	G9	9417
3372	G9	9418
3373	C12	9419
3374	C12	9420
3375	C12	F354
3376	A10	F355
3377	A10	F356
3378	B10	F400
3379	D11	F401
3380	B7	F402
3381	H8	F403
3382	F7	F404
3385	G7	F405
3389	F9	F406
3393	F11	F407
3400	B5	F408
3401	B7	F409
3402	B1	F410
3403	G7	F411
3404	I6	F412
3405	H5	F413
3406	G2	F414
3407	F2	F415
3408	B5	F416
3409	G2	F417
3410	E3	F418
3411	C2	F419

Small Signal Board: PICNIC


B3A
PICNIC
7713
PICNIC
SAA4978H
7714
MS81V04160
FM1
PROM
FBX
SOFTWARE
MICRO-PROCESSOR
PSP
BACK END
PEAKING
MUX
MID
END
HISTOGRAM
NOISE
REDUCTION
TBC/SRC
3 X DAC
3 X ADC
ANALOG
PROCESSING
FRONT
END
PLL
OSC
BST
TO B3c*
TO B3c**
TO B3b
B1 B10
BUS A
BUS B
BUS C
BUS D
L1
L2
L3
L4
L5
L6
L7
L8
L9
L10
L11
500mV / div DC
10us / div
250ns / div
1V / div DC
20us / div
5ms / div
10μs / div
10ms / div
20μs / div
Y_EAGLE_E
U_EAGLE_E
V_EAGLE_E
Y-PIP+MAIN-IN
U-PIP+MAIN-IN
V-PIP+MAIN-IN
HD100
VD100
SCL-F
SDA-F
RSTR
HA50
VA50
KF25BDT
CX-5F 12M
CSTCV 12M
HREF_EXT
TDOMA
TRST
TMS
TCK
FMN

* SEE MAPPING I1 ON B3c

** SEE MAPPING G1 ON B3c

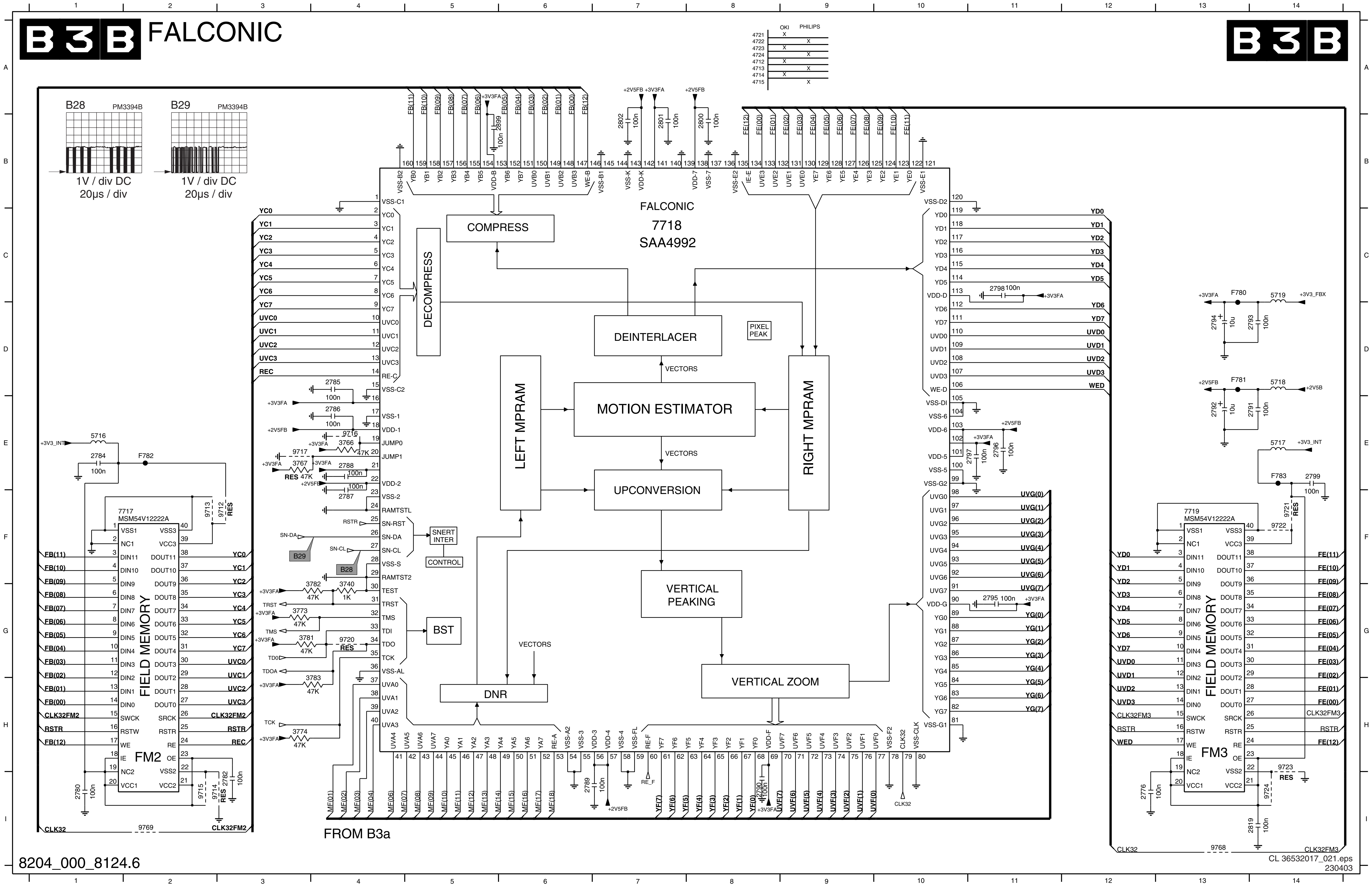
8204_000_8124.6

CL 36532017_020.eps
230403

0018	K15
0019	K15
1701	J5
1702	K5
1710	K4
2700	A2
2701	B2
2702	B2
2703	B2
2704	B2
2705	B2
2706	C2
2707	C2
2708	C2
2713	F1
2714	F2
2718	H2
2719	H2
2720	I2
2721	I2
2722	J1
2723	D1
2724	E1
2728	L2
2729	L2
2730	L3
2740	H4
2741	H4
2742	H4
2743	B4
2744	B5
2745	B6
2746	C6
2748	E5
2749	E5
2750	E5
2751	G4
2752	H4
2753	I5
2755	G5
2756	J5
2757	H5
2758	K4
2759	K5
2760	L8
2761	L9
2762	J13
2763	H13
2764	E12
2765	E10
2766	E8
2767	C11
2769	D13
2773	F15
2775	F16
2777	F17
2778	F17
2779	D17
2781	C15
2823	B6
2824	C6
2831	G2
2870	B11
2871	H15
2872	H16
2874	J15
2877	I15
2878	I16
2881	I5
3703	A2
3704	B2
3705	C2
3706	A3
3707	B3
3708	C3
3709	E2
3710	F2
3712	L6
3713	G1
3714	H1
3715	I1
3716	H2
3717	H2
3718	I2
3719	F2
3720	G2
3721	E2
3722	E2
3725	I3
3726	J2
3727	I3
3728	I2
3729	D2
3730	I2
3731	D2
3733	D2
3734	E2
3735	E2
3736	B4
3737	C4
3738	C4
3739	C4
3741	C4
3742	C4
3743	C5
3746	C5
3747	B4
3748	B4
3749	C3
3750	C5
3751	A5
3752	B5
3753	B5
3754	B5
3755	C3
3756	D4
3758	E6
3759	H5
3760	J5
3762	J12
3763	J12
3764	E9
3765	E10
5700	B2
5701	B2
5702	C2
5706	L1
5710	B6
5711	C6
5712	D4
5713	E4
5714	G4
5729	H15
5731	I15
5733	I15
5736	I5
5737	C11
5744	B11
7703	D2
7706	K2
7707	C3
7708	B5
7709	C4
7710	C5
7711	B7
7712	D6
7713	H8
7714	D15
7715	F2
9700	A6
9701	E5
9702	D5
9703	G5
9704	K5
9705	K3
9706	K3
9707-A	I12
9707-B	I13
9707-C	I13
9707-D	I13
9708-A	H12
9708-B	I13
9708-C	I13
9708-D	I13
9709-A	H12
9709-B	H13
9709-C	H13
9709-D	H13
9710-A	G12
9710-B	G13
9710-C	G13
9710-D	G13
9711	G13
9725	D3
9726	E3
9730	B6
9731	B6
9732	C6
9733	C6
9734	E4
9735	D4
9736	A1
9737	B1
9738	C1
9739	G17
9760	C15
9761	F15
F100	A1
F101	B1
F102	C1
F103	B2
F104	D1
F105	E1
F108	G1
F109	H1
F110	I1
F112	I1
F114	F2
F115	E2
F118	H6
F119	I1
F120	C2
F122	K5
F123	K5
F124	K5
F125	L5
F126	L5
F127	L5
F128	E5
F129	F5
F139	J13
F140	J13
F145	B5
F147	L3
F148	F13
F149	G13
F150	G13
F151	E9
F152	K6
F155	F5
F156	G5
F157	A3
F158	B3
F159	C3
F160	H6
F161	H5
F162	H4
F163	H4
F164	I4
F165	I4
F166	I4
F700	B11
F701	C11
F702	H15
F703	I15
F705	I15
F706	B5
F707	B5
F708	C5
F709	C4
F710	J5
F784	D6
F785	E6
F786	E7
F787	E6
F788	G6

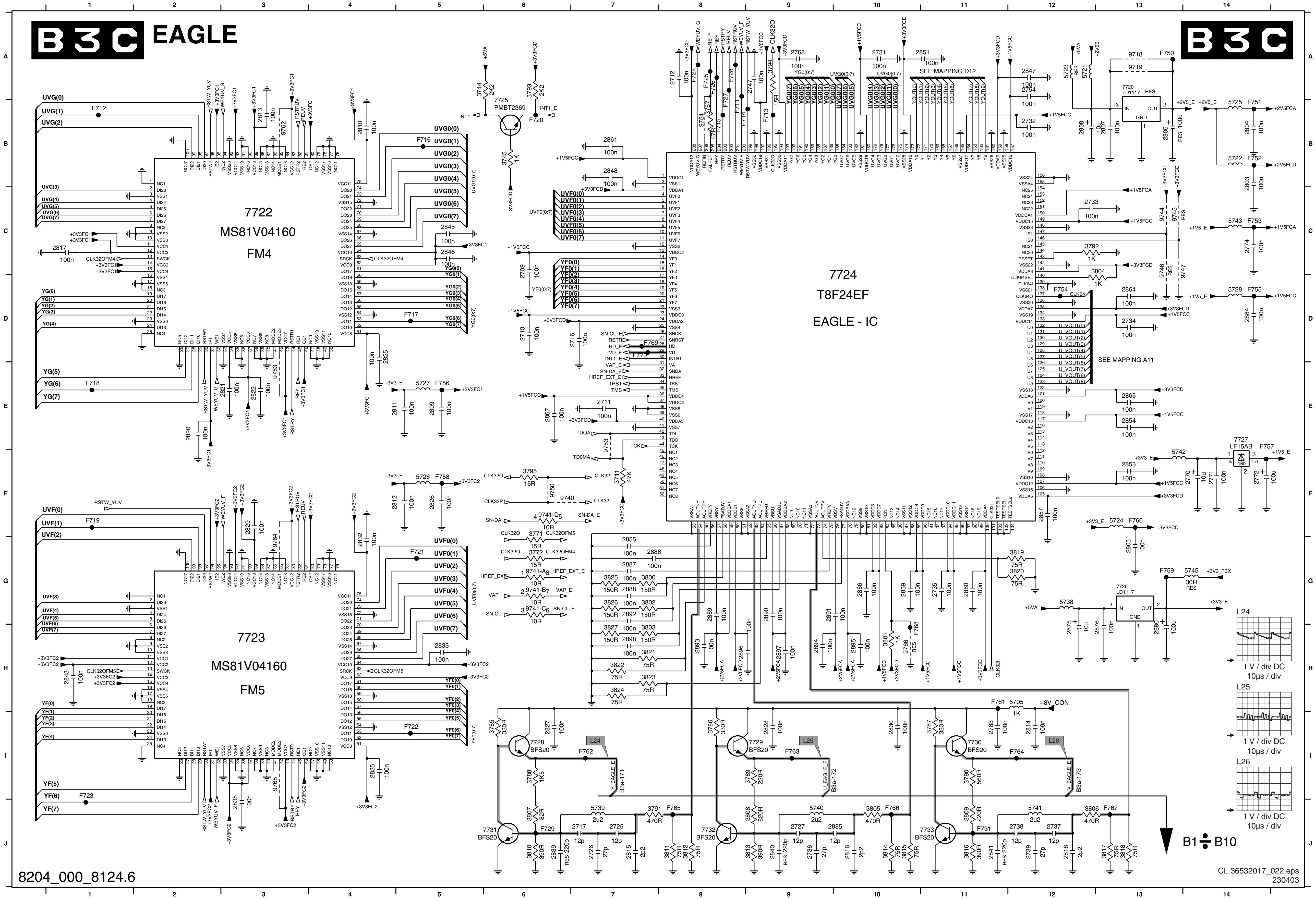
Small Signal Board: Diversity Tables

Small Signal Board: Falconic


B3B FALCONIC
B28 PM3394B
B29 PM3394B
1V / div DC
20µs / div
1V / div DC
20µs / div
OKI PHILIPS
4721 4722 4723 4724 4712 4713 4714 4715
FALCONIC
7718
SAA4992
COMPRESS
DECOMPRESS
DEINTERLACER
PIXEL PEAK
VECTORS
MOTION ESTIMATOR
LEFT MPRAM
RIGHT MPRAM
UPCONVERSION
VERTICAL PEAKING
VERTICAL ZOOM
DNR
SNERT INTER
CONTROL
BST
7717
MSM54V12222A
FIELD MEMORY
FM2
7719
MSM54V12222A
FIELD MEMORY
FM3
F780
F781
F782
F783
5716
5717
5718
5719
+3V3FA
+2V5FB
+3V3_INT
+3V3_FBX
+2V5B
RES
CLK32
CLK32FM2
CLK32FM3
9768
9769
FROM B3a
8204_000_8124.6
CL 36532017_021.eps
230403

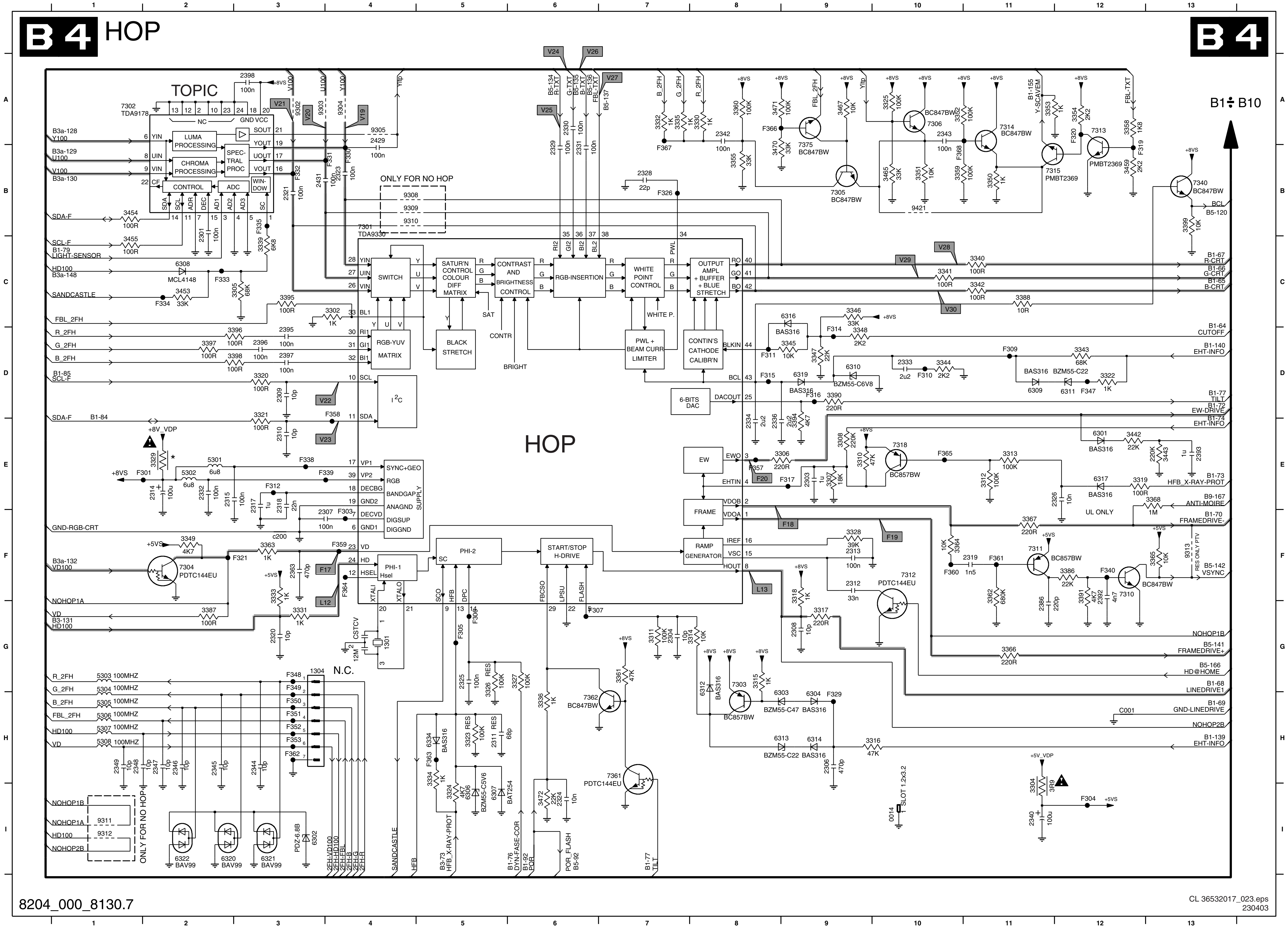
2776	I12
2780	I1
2782	I3
2784	E1
2785	D4
2786	E4
2787	F4
2788	E4
2789	I6
2790	I8
2791	E14
2792	E13
2793	D14
2794	D13
2795	G11
2796	E11
2797	E11
2798	C11
2799	E14
2800	B8
2801	B7
2802	B7
2819	I14
2899	B5
3740	G4
3766	E4
3767	E3
3773	G3
3774	H3
3781	G3
3782	G4
3783	H4
5716	E1
5717	E14
5718	D14
5719	C14
7717	F1
7718	C7
7719	F13
9712	F3
9713	F2
9714	I2
9715	I2
9716	E4
9717	E3
9720	G4
9721	F14
9722	F14
9723	H14
9724	I14
9768	I13
9769	I2
F780	C13
F781	D13
F782	E2
F783	E14

Small Signal Board: Eagle


B3C
EAGLE
B3C
7722
MS81V04160
FM4
7723
MS81V04160
FM5
7724
T8F24EF
EAGLE - IC
7725
PMBT2369
7720
LD1117
7726
LD1117
7727
LF15AB
SEE MAPPING D12
SEE MAPPING A11
7728 BFS20
7729 BFS20
7730 BFS20
7731 BFS20
7732 BFS20
7733 BFS20
L24
L25
L26
1 V / div DC
10µs / div
B1 ÷ B10
+8V_CON
8204_000_8124.6
CL 36532017_022.eps
230403

2709	C6
2710	D6
2711	E7
2712	A8
2716	D7
2717	J7
2725	J7
2726	J7
2727	J9
2731	A10
2732	B12
2733	C12
2734	D13
2735	G11
2736	J9
2737	J12
2738	J12
2739	J12
2747	A9
2754	A12
2768	A9
2770	F14
2771	F14
2772	F14
2774	C14
2783	I11
2803	B14
2804	B14
2805	G13
2806	B13
2807	B13
2808	B12
2809	E5
2810	B4
2811	E5
2812	F5
2813	B3
2814	I12
2815	J7
2816	J10
2817	C1
2818	J12
2820	E2
2821	E3
2822	E3
2825	D4
2826	F5
2827	I6
2828	I9
2829	F3
2830	I10
2832	G4
2833	H5
2835	I4
2838	J3
2839	J6
2840	J9
2841	J11
2843	H1
2845	C5
2846	C5
2847	A12
2848	B7
2851	A11
2853	F13
2854	E13
2855	G7
2857	F12
2859	G10
2860	G11
2861	B7
2864	D13
2865	E13
2866	G10
2867	E6
2875	H12
2876	H13
2880	H13
2884	D14
2885	J10
2886	G7
2887	G7
2888	G7
2889	G8
2890	G9
2891	G9
2892	G7
2893	H8
2894	H9
2895	H10
2896	H8
2897	H9
2898	H7
3711	F7
3744	A5
3745	B6
3757	B8
3771	F6
3772	G6
3785	I6
3786	I8
3787	I11
3788	I6
3789	I9
3790	I11
3791	J7
3792	C12
3793	A6
3794	A9
3795	F6
3800	G7
3801	H10
3802	G7
3803	H7
3804	C13
3805	J10
3806	J12
3807	J6
3808	J9
3809	J11
3810	J6
3811	J8
3812	J8
3813	J9
3814	J10
3815	J10
3816	J11
3817	J13
3818	J13
3819	G12
3820	G12
3821	H7
3822	H7
3823	H7
3824	H7
3825	G7
3826	G7
3827	H7
5705	H12
5721	A12
5722	B14
5723	A12
5724	F13
5725	B14
5726	F5
5727	E5
5728	D14
5738	G12
5739	J7
5740	J9
5741	J12
5742	F13
5743	C14
5745	G14
7720	A13
7722	C3
7723	H3
7724	D10
7725	B6
7726	G13
7727	E14
7728	I6
7729	I9
7730	I11
7731	J6
7732	J8
7733	J11
9718	A13
9719	A13
9740	F6
9741-A	G6
9741-B	G6
9741-C	G6
9741-D	F6
9744	C13
9745	C13
9746	C13
9747	C13
9750	F6
9753	E7
9754	B8
9762	B3
9763	E3
9764	G3
9765	I3
9766	H10
F711	B8
F712	B1
F713	B9
F714	B8
F715	B8
F716	B5
F717	D5
F718	E1
F719	F1
F720	B6
F721	G5
F722	I5
F723	I1
F724	A8
F725	A8
F726	A8
F727	B8
F728	A8
F729	J6
F731	J11
F750	A13
F751	B14
F752	B14
F753	C14
F754	D12
F755	D14
F756	E5
F757	E14
F758	F5
F759	G13
F760	F13
F761	H11
F762	I7
F763	I9
F764	I12
F765	J8
F766	J10
F767	J13
F768	H10
F769	D7
F770	D7

Small Signal Board: HOP

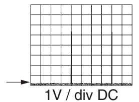

B 4
HOP
B 4
TOPIC
7302
TDA9178
LUMA PROCESSING
CHROMA PROCESSING
SPEC-TRAL PROC
CONTROL
ADC
WIN-DOW
ONLY FOR NO HOP
9308
9309
9310
7301
TDA9330
SWITCH
SATUR'N CONTROL COLOUR DIFF MATRIX
CONTRAST AND BRIGHTNESS CONTROL
RGB-INSERTION
WHITE POINT CONTROL
OUTPUT AMPL + BUFFER + BLUE STRETCH
RGB-YUV MATRIX
BLACK STRETCH
PWL + BEAM CURR LIMITER
CONTIN'S CATHODE CALIBR'N
6-BITS DAC
I²C
HOP
SYNC+GEO RGB BANDGAP ANAGND DIGSUP DIGGND
SUPPLY
EW
FRAME
RAMP GENERATOR
PHI-1 Hsel
PHI-2
START/STOP H-DRIVE
B1÷B10
N.C.
1304
ONLY FOR NO HOP
UL ONLY
SLOT 1.2x3.2
V19
V20
V21
V22
V23
V24
V25
V26
V27
V28
V29
V30
F17
F18
F19
F20
L12
B3a-128 Y100
B3a-129 U100
V100 B3a-130
SDA-F
SCL-F
B1-79 LIGHT-SENSOR
HD100 B3a-148
SANDCASTLE
FBL_2FH
R_2FH
G_2FH
B_2FH
B1-85 SCL-F
SDA-F B1-84
GND-RGB-CRT
B3a-132 VD100
NOHOP1A
VD B3-131 HD100
B1-67 R-CRT
B1-66 G-CRT
B1-65 B-CRT
B1-64 CUTOFF
B1-140 EHT-INFO
B1-77 TILT
B1-72 EW-DRIVE
B1-74 EHT-INFO
B1-73 HFB_X-RAY-PROT
B9-167 ANTI-MOIRE
B1-70 FRAMEDRIVE-
B5-142 VSYNC
NOHOP1B
B5-141 FRAMEDRIVE+
B5-166 HD@HOME
B1-68 LINEDRIVE1
B1-69 GND-LINEDRIVE
NOHOP2B
B1-139 EHT-INFO
BCL B5-120
B3-73 HFB_X-RAY-PROT
B1-76 DYN-FASE-COR
B1-92 POR
POR_FLASH B5-92
B1-77 TILT
2FH-VD100
2FH-HD100
2FH-FBL
2FH-B
2FH-G
2FH-R
SANDCASTLE
HFB
7304 PDTC144EU
7305 BC847BW
7306 BC847BW
7310 BC847BW
7311 BC857BW
7312 PDTC144EU
7313 PMBT2369
7314 BC847BW
7315 PMBT2369
7318 BC857BW
7340 BC847BW
7361 PDTC144EU
7362 BC847BW
7303 BC857BW
7375 BC847BW
6322 BAV99
6320 BAV99
6321 BAV99
6302 PDZ-6.8B
6308 MCL4148
1301 CSTCV 12M
0014

8204_000_8130.7

CL 36532017_023.eps
230403

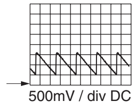
Ref.	Location
0014	I10
1301	G4
1304	G3
2301	B2
2303	E9
2304	G7
2306	H9
2307	F4
2308	G9
2309	D3
2310	E3
2311	H5
2312	F9
2313	F9
2314	E2
2315	E2
2317	E3
2318	E3
2319	F11
2320	G3
2321	B3
2323	B4
2324	I6
2325	G5
2326	E12
2328	B7
2329	B6
2330	A6
2331	B6
2332	E2
2333	D10
2334	E8
2336	E8
2340	I11
2342	A8
2343	A10
2344	H3
2345	H2
2346	H2
2347	H2
2348	H1
2349	H1
2363	F3
2386	G11
2392	F12
2393	E13
2395	D3
2396	D3
2397	D3
2398	A3
2429	A4
2431	B3
3302	C4
3304	I11
3305	C3
3306	E9
3307	E9
3308	E9
3310	E9
3311	G7
3312	E11
3313	E11
3314	G8
3315	G8
3316	H10
3317	G9
3318	F9
3319	E12
3320	D3
3321	D3
3322	D12
3323	H5
3324	I5
3325	A10
3326	G5
3327	G6
3328	F9
3329	E2
3330	A8
3331	G3
3332	A7
3333	F3
3334	H5
3335	A7
3336	H6
3339	C3
3340	C11
3341	C10
3342	C11
3343	D12
3344	D10
3345	D9
3346	C9
3347	D9
3348	D9
3349	F2
3350	B11
3351	B10
3352	A10
3353	A11
3354	A12
3355	B8
3358	A12
3359	B10
3360	A8
3361	G7
3362	F11
3363	F3
3364	F10
3365	F13
3366	G11
3367	F11
3368	E13
3386	F12
3387	G2
3388	C11
3390	D9
3391	F12
3394	E9
3395	C3
3396	D3
3397	D2
3398	D3
3399	B13
3442	E12
3443	E13
3453	C2
3454	B1
3455	C1
3459	B12
3465	B10
3467	A9
3470	B8
3471	A8
3472	I6
5301	E2
5302	E2
5303	G1
5304	G1
5305	H1
5306	H1
5307	H1
5308	H1
6301	E12
6302	I3
6303	H9
6304	H9
6306	I5
6307	I5
6308	C2
6309	D11
6310	D9
6311	D12
6312	G8
6313	H9
6314	H9
6316	C9
6317	E12
6319	D9
6320	I2
6321	I3
6322	I2
6334	H5
7301	B4
7302	A1
7303	G8
7304	F2
7305	B9
7306	A10
7310	F12
7311	F11
7312	F10
7313	A12
7314	A11
7315	B12
7318	E10
7340	B13
7361	H7
7362	H6
7375	B9
9302	A3
9303	A3
9304	A4
9305	A4
9308	B4
9309	B4
9310	B4
9311	I1
9312	I1
9313	F13
9421	B10
C001	H12
F301	E2
F303	E4
F304	I12
F305	G5
F306	G5
F307	G6
F309	D11
F310	D10
F311	D8
F312	E3
F314	C9
F315	D8
F316	D9
F317	E9
F319	B12
F320	A12
F321	F3
F326	B7
F329	H9
F330	B4
F331	B4
F332	B3
F333	C2
F334	C2
F335	B3
F338	E3
F339	E4
F340	F12
F347	D12
F348	G3
F349	G3
F350	H3
F351	H3
F352	H3
F353	H3
F357	E8
F358	D4
F359	F4
F360	F10
F361	F11
F362	H3
F363	H5
F364	F4
F365	E10
F366	A8
F367	B7
F368	B10
c200	F3

F17



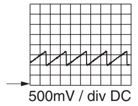
1V / div DC
5ms / div

F18 PM3394B



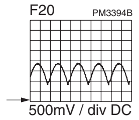
500mV / div DC
5ms / div

F19 PM3394B



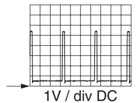
500mV / div DC
5ms / div

F20 PM3394B



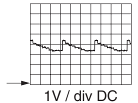
500mV / div DC
5ms / div

L12



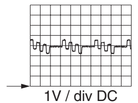
1V / div DC
10us / div

V19



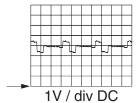
1V / div DC
10us / div

V20



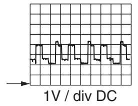
1V / div DC
10us / div

V21



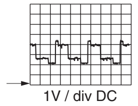
1V / div DC
10us / div

V28 PM3394B



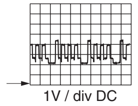
1V / div DC
10us / div

V29 PM3394B



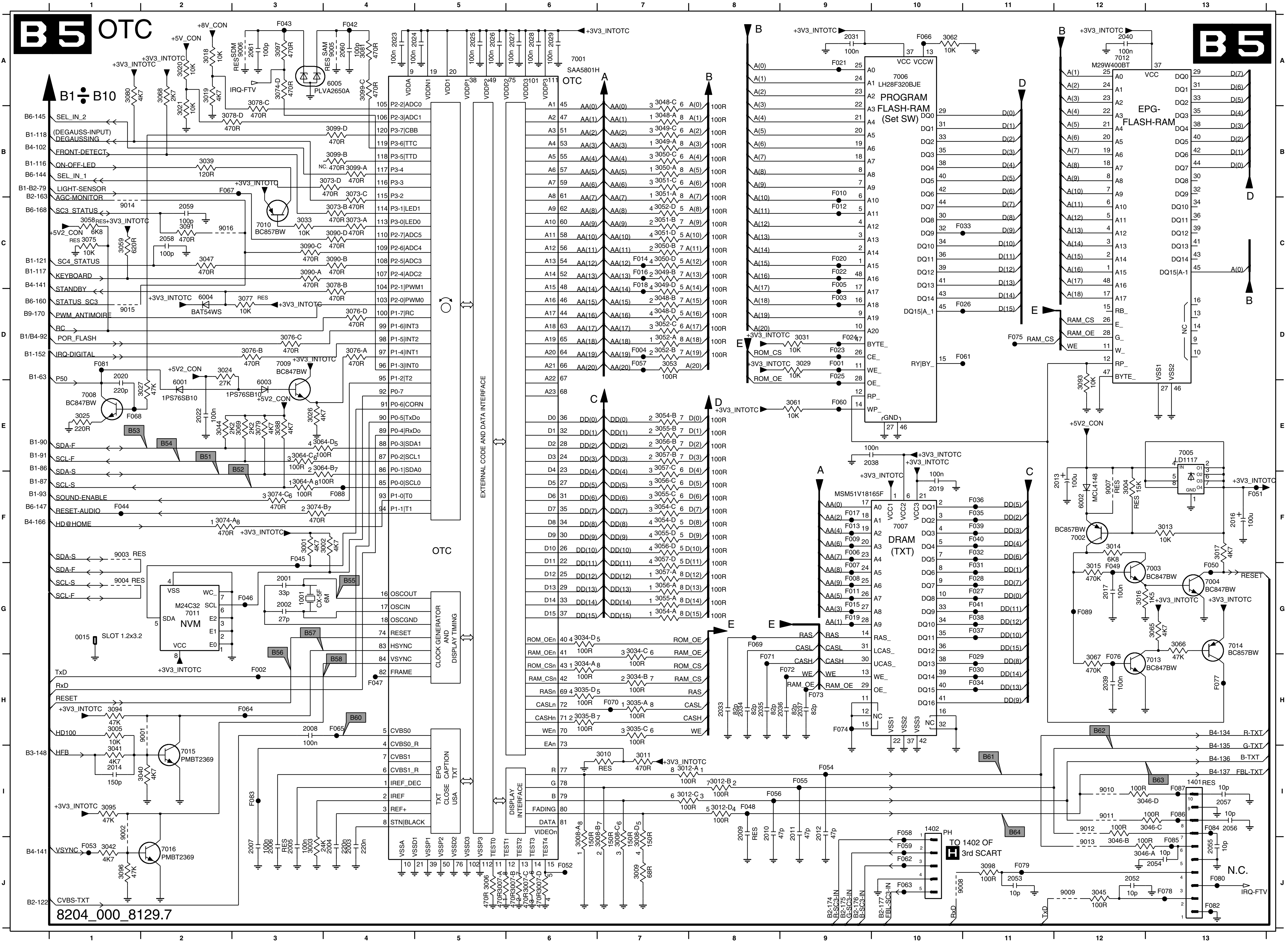
1V / div DC
10us / div

V30 PM3394B



1V / div DC
10us / div

Small Signal Board: OTC


B5
OTC
B1 ÷ B10
7001 SAA5801H OTC
7006 LH28F320BJE PROGRAM FLASH-RAM (Set SW)
7012 M29W400BT EPG-FLASH-RAM
MSM51V18165F 7007 DRAM (TXT)
M24C32 7011 NVM
7005 LD1117
EXTERNAL CODE AND DATA INTERFACE
CLOCK GENERATOR AND DISPLAY TIMING
EPG CLOSE CAPTION TXT USA
DISPLAY INTERFACE
+3V3_INTOTC
+5V_CON
+8V_CON
+5V2_CON
SEL_IN_2
(DEGAUSS-INPUT) DEGAUSSING
FRONT-DETECT
ON-OFF-LED
SEL_IN_1
LIGHT-SENSOR
AGC-MONITOR
SC3_STATUS
SC4_STATUS
KEYBOARD
STANDBY
STATUS_SC3
PWM_ANTIMOIRE
RC
POR_FLASH
IRQ-DIGITAL
P50
SDA-F
SCL-F
SDA-S
SCL-S
SOUND-ENABLE
RESET-AUDIO
HD@HOME
TxD
RxD
RESET
HD100
HFB
VSYNC
CVBS-TXT
ROM_CS
RAM_CS
ROM_OE
RAM_OE
R-TXT
G-TXT
B-TXT
FBL-TXT
IRQ-FTV
TO 1402 OF
H 3rd SCART
N.C.
SLOT 1.2x3.2
8204_000_8129.7

CL 36532017_024.eps
230403

0015 G1
1001 G3
1401 I13
1402 I10
2001 G3
2002 G3
2003 J4
2004 J4
2005 J3
2006 J3
2007 J3
2008 H3
2009 I8
2010 I8
2011 I9
2012 I9
2013 F12
2014 I1
2016 F13
2017 G12
2019 F10
2020 D1
2022 E2
2023 A4
2024 A5
2025 A5
2026 A5
2027 A6
2028 A6
2029 A6
2031 A9
2033 H8
2034 H8
2035 H8
2036 H9
2037 H9
2038 E9
2039 H12
2040 A12
2052 J12
2053 J11
2054 J13
2055 J13
2056 I13
2057 I13
2058 C2
2059 C2
2060 A4
2061 A3
3001 F3
3002 F4
3003 J3
3004 F12
3005 H1
3006 J5
3007-A J5
3007-B J6
3007-C J6
3007-D J6
3008-A I6
3008-B I7
3008-C I7
3008-D I7
3009 J7
3010 I7
3011 I7
3012-A I7
3012-B I8
3012-C I7
3012-D I8
3013 F13
3014 F12
3015 G12
3016 G12
3017 F13
3018 A2
3019 A2
3020 A2
3021 B2
3024 D2
3025 E1
3026 E3
3027 E2
3029 D9
3031 D9
3033 C3
3034-A H6
3034-B H7
3034-C G7
3034-D G6
3035-A H7
3035-B H6
3035-C H7
3035-D H6
3039 B2
3040 I2
3041 I1
3042 J1
3044 E2
3045 J12
3046-A J12
3046-B J12
3046-C I13
3046-D I13
3047 C2
3048-A B7
3048-B D7
3048-C A7
3048-D D7
3049-A B7
3049-B C7
3049-C B7
3049-D C7
3050-A B7
3050-B C7
3050-C B7
3050-D C7
3051-A B7
3051-B C7
3051-C B7
3051-D C7
3052-A D7
3052-B D7
3052-C D7
3052-D C7
3053 D7
3054-A G7
3054-B E7
3054-C F7
3054-D F7
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3055-C F7
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3056-A G7
3056-B E7
3056-C F7
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3057-C E7
3057-D F7
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3059 C1
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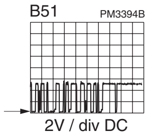
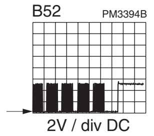
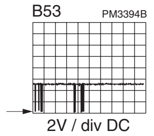
3062 A10
3064-A F3
3064-B E4
3064-C E3
3064-D E4
3065 G13
3066 G13
3067 H12
3068 A2
3069 E3
3073-A C4
3073-B C4
3073-C B4
3073-D B4
3074-A F2
3074-B F3
3074-C F3
3074-D A3
3075 C1
3076-A D4
3076-B D3
3076-C D3
3076-D D4
3077 D3
3078-B C4
3078-C A3
3078-D B3
3079 E3
3080 A1
3081 A4
3088 E3
3090-A C3
3090-B C4
3090-C C3
3090-D C4
3091 C2
3093 E12
3094 H1
3095 I1
3096 J1
3097 A3
3098 J11
3099-A B4
3099-B B4
3099-C A4
3099-D B4
6001 E2
6002 F12
6003 E3
6004 D2
6005 A4
7001 A6
7002 F12
7003 G13
7004 G13
7005 E13
7006 A10
7007 F10
7008 E1
7009 D3
7010 C3
7011 G2
7012 A12
7013 H13
7014 G13
7015 I2
7016 J2
9001 H2
9002 I1
9003 F1
9004 G1
9005 A4
9006 A3
9007 F12
9008 J10
9009 J12
9010 I12
9011 I12
9012 I12
9013 J12
9014 C1
9015 D1
9016 C2
F001 D9
F002 H3
F003 D9
F004 D7
F005 C9
F006 F9
F007 G9
F008 G9
F009 F9
F010 B9
F011 G9
F012 C9
F013 F9
F014 C7
F015 G9
F016 C7
F017 F9
F018 C7
F019 G9
F020 C9
F021 A9
F022 C9
F023 D9
F024 D9
F025 D9
F026 D11
F027 G11
F028 G11
F029 H11
F030 H11
F031 G11
F032 F11
F033 C11
F034 H11
F035 F11
F036 F11
F037 G11
F038 G11
F039 F11
F040 F11
F041 G11
F042 A4
F043 A3
F044 F1
F045 F3
F046 G3
F047 H4
F048 I8
F049 G12
F050 G13
F051 F13
F052 J6
F053 J1
F054 I9
F055 I9
F056 I8
F057 D7
F058 I10
F059 J10
F060 E9
F061 D11
F062 J10
F063 J10
F064 H3
F065 H4
F066 A10
F067 B3
F068 E1
F069 G8
F070 H7
F071 H8
F072 H9
F073 H9
F074 H9
F075 D11
F076 H12
F077 H13
F078 J13
F079 J11
F080 J13
F081 D1
F082 J13
F083 I3
F084 I13
F085 J13
F086 I13
F087 I13
F088 F4
F089 G12



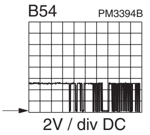
2V / div DC
100us / div



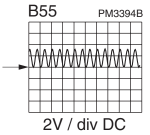
2V / div DC
100us / div



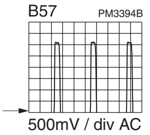
2V / div DC
5ms / div



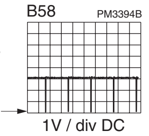
2V / div DC
5ms / div



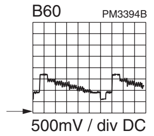
2V / div DC
250ns / div



500mV / div AC
10us / div

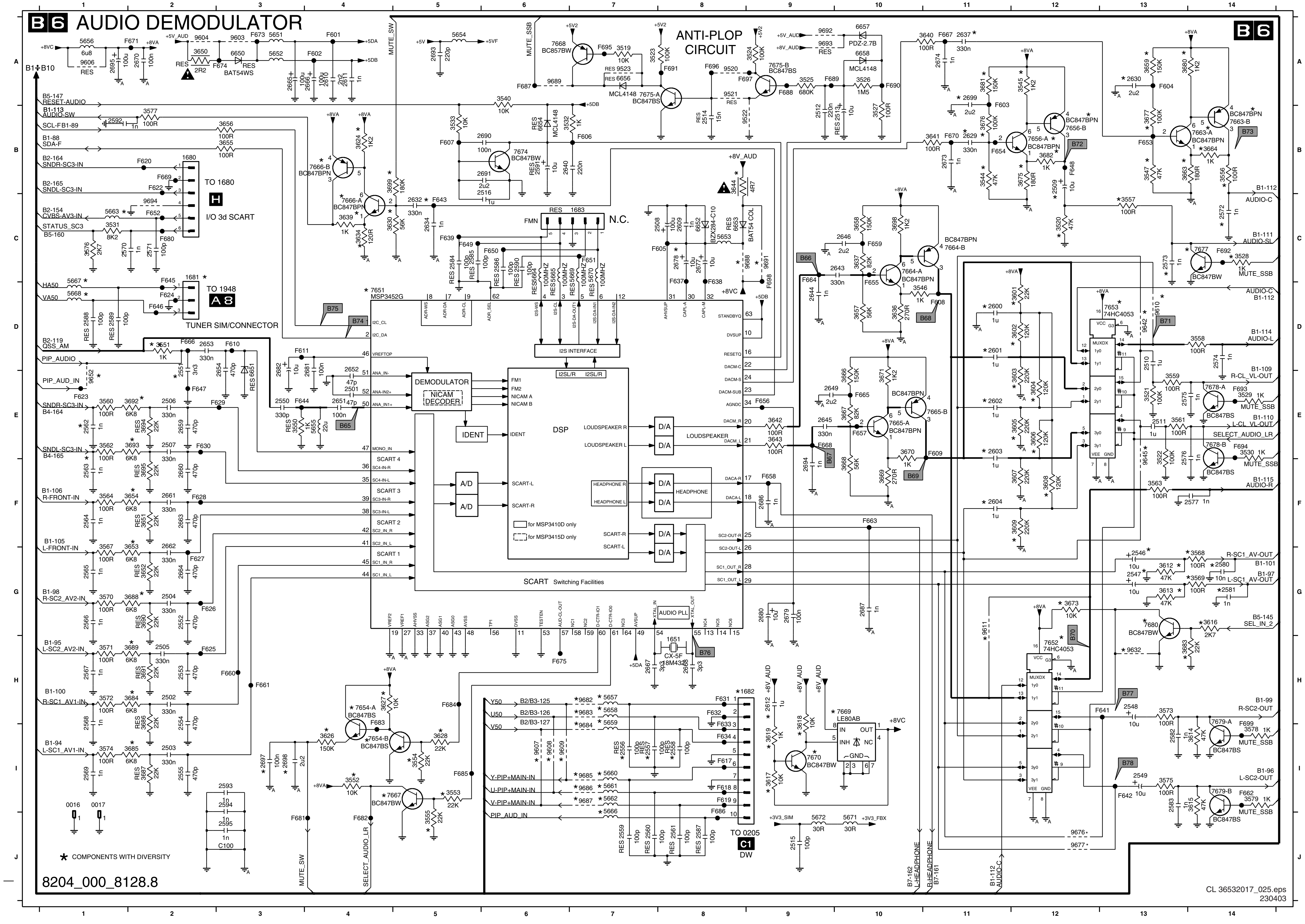


1V / div DC
5ms / div



500mV / div DC
10us / div

Small Signal Board: Audio Demodulator


B6 AUDIO DEMODULATOR
ANTI-PLOP CIRCUIT
B1÷B10
B5-147 RESET-AUDIO
B1-113 AUDIO-SW
SCL-FB1-89
B1-88 SDA-F
B2-164 SNDR-SC3-IN
B2-165 SNDL-SC3-IN
B2-154 CVBS-AV3-IN
STATUS_SC3
B5-160
TO 1680
H
I/O 3d SCART
HA50
VA50
TO 1948
A8
TUNER SIM/CONNECTOR
B2-119 QSS_AM
PIP_AUDIO
PIP_AUD_IN
SNDR-SC3-IN B4-164
SNDL-SC3-IN B4-165
B1-106 R-FRONT-IN
B1-105 L-FRONT-IN
B1-98 R-SC2_AV2-IN
B1-95 L-SC2_AV2-IN
B1-100 R-SC1_AV1-IN
B1-94 L-SC1_AV1-IN
7651 MSP3452G
DEMODULATOR
NICAM DECODER
IDENT
DSP
I2S INTERFACE
N.C.
FMN
D/A
A/D
LOUDSPEAKER
HEADPHONE
SCART 1
SCART 2
SCART 3
SCART 4
SCART Switching Facilities
AUDIO PLL
for MSP3410D only
for MSP3415D only
TO 0205
C1
DW
B1-112 AUDIO-C
B1-111 AUDIO-SL
MUTE_SSB
B1-114 AUDIO-L
B1-109 R-CL_VL-OUT
B1-110 L-CL_VL-OUT
SELECT_AUDIO_LR
B1-115 AUDIO-R
R-SC1_AV-OUT
B1-101
B1-97 L-SC1_AV-OUT
B5-145 SEL_IN_2
B1-99 R-SC2-OUT
B1-96 L-SC2-OUT
7653 74HC4053
7652 74HC4053
7669 LE80AB
B7-162 L-HEADPHONE
B7-161 R-HEADPHONE
B1-112 AUDIO-C
MUTE_SW
SELECT_AUDIO_LR
Y-PIP+MAIN-IN
U-PIP+MAIN-IN
V-PIP+MAIN-IN
PIP_AUD_IN
B65
B66
B67
B68
B69
B70
B71
B72
B73
B74
B75
B76
B77
B78
★ COMPONENTS WITH DIVERSITY
8204_000_8128.8
CL 36532017_025.eps
230403

0016	I1
0017	I1
1651	H8
1680	B2
1681	C2
1682	H8
1683	C7
2501	E4
2502	H2
2503	I2
2504	G2
2505	H2
2506	E2
2507	E2
2508	C8
2509	B12
2510	D13
2511	E13
2512	B9
2513	B10
2514	B8
2515	J9
2516	C6
2546	G13
2547	G13
2548	H13
2549	I13
2550	E3
2551	D2
2552	G2
2553	H2
2554	H2
2555	I2
2556	I7
2557	I7
2558	I8
2559	J7
2560	J7
2561	J8
2562	E1
2563	F1
2564	F1
2565	G1
2566	G1
2567	H1
2568	H1
2569	I1
2570	C1
2571	C2
2572	C14
2573	C13
2574	D14
2575	E13
2576	E13
2577	F14
2580	G14
2581	G14
2582	I13
2583	I13
2584	C5
2585	C5
2586	C6
2587	J8
2588	D1
2589	D1
2590	C6
2591	B6
2592	B1
2593	I3
2594	I3
2595	J3
2600	D11
2601	D11
2602	E11
2603	E11
2604	F11
2609	C8
2610	A4
2611	A4
2612	H9
2629	B11
2630	A13
2632	C5
2634	C5
2637	A11
2640	B6
2643	C10
2644	D9
2645	E9
2646	C10
2649	E9
2651	E4
2652	E4
2653	D2
2654	D3
2659	E2
2660	F2
2661	F2
2662	G2
2663	F2
2664	G2
2665	A3
2666	A4
2667	H7
2668	H8
2670	A2
2673	B11
2674	A11
2677	C8
2678	C8
2679	G9
2680	G9
2681	D4
2682	D3
2686	F9
2687	G10
2690	B6
2691	B6
2693	A5
2694	F9
2695	A1
2697	I3
2698	I3
2699	A11
3519	A7
3520	C12
3521	E13
3522	E13
3523	A7
3524	A9
3525	A9
3526	A10
3527	B10
3528	C14
3529	E14
3530	E14
3531	C1
3532	B6
3533	B5
3540	A6
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3545	A12
3546	D10
3547	B13
3550	E3
3551	D2
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3553	I5
3554	I5
3555	J5
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3562	E1
3563	F13
3564	F1
3567	G1
3568	G14
3569	G14
3570	G1
3571	H1
3572	H1
3573	H13
3574	I1
3575	I13
3576	C1
3577	B2
3578	I14
3579	I14
3601	D12
3602	D12
3603	E12
3604	E12
3605	E12
3606	E12
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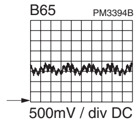
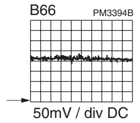
3608	F12
3609	F12
3612	G13
3613	G13
3614	I14
3615	I14
3616	G14
3617	I9
3618	H9
3619	I9
3624	B4
3626	I4
3627	H4
3628	I5
3630	C4
3634	C4
3636	D10
3637	C10
3639	C4
3640	A11
3641	B11
3642	E9
3643	E9
3644	B8
3650	A2
3651	F2
3652	G2
3653	G2
3654	F2
3655	B3
3656	B3
3657	D10
3658	C10
3659	A13
3663	B13
3664	B14
3666	E10
3667	E10
3668	F10
3669	F10
3670	E10
3671	E10
3673	G12
3675	B12
3676	B11
3677	B13
3680	A13
3681	A11
3682	B12
3683	H13
3684	H2
3685	I2
3686	H2
3687	I2
3688	G2
3689	H2
3690	G2
3691	H2
3692	E2
3693	E2
3694	E2
3695	F2
3698	C10
3699	B4
5651	A3
5652	A3
5653	C8
5654	A5
5655	E4
5656	A1
5657	H7
5658	H7
5659	I7
5660	I7
5661	I7
5662	I7
5663	C1
5664	C6
5665	C6
5666	J7
5667	D1
5668	D1
5669	C7
5670	C7
5671	J10
5672	J9
6650	A3
6651	D3
6652	C8
6653	C8
6654	B6
6656	A7
6657	A10
6658	A10
7651	D4
7652	H12
7653	D13
7654-A	H4
7654-B	I4
7656-A	B12
7656-B	B12
7663-A	B14
7663-B	B14
7664-A	C10
7664-B	C11
7665-A	E10
7665-B	E11
7666-A	C4
7666-B	B4
7667	I5
7668	A6
7669	H10
7670	I9
7674	B6
7675-A	A8
7675-B	A9
7677	C14
7678-A	E14
7678-B	E14
7679-A	H14
7679-B	I14
7680	G13
9520	A8
9521	A8
9522	B9
9523	A7
9603	A3
9604	A2
9606	A1
9607	I6
9608	I6
9609	I6
9610	D13
9611	G11
9632	H13
9642	D13
9645	E13
9652	E1
9676	J12
9677	J12
9682	H7
9683	H7
9684	I7
9685	I7
9686	I7
9687	I7
9688	C8
9689	A6
9691	C9
9692	A9
9693	A9
9694	C2
C100	J3
F601	A4
F602	A4
F603	B11
F604	A13
F605	C8
F606	B7
F607	B5
F608	D11
F609	E11
F610	D3
F611	D3
F617	I8
F618	I8
F619	I8
F620	B2
F622	B2
F623	E1
F624	D2
F625	H2
F626	G2
F627	G2
F628	F2
F629	E3
F630	E2
F631	H8
F632	H8
F633	I8
F634	I8
F637	C8
F638	C8
F639	C5
F641	H13
F642	I13
F643	C5
F644	E3
F645	D2
F646	D2
F647	E2
F648	B12
F649	C5
F650	C6
F651	C7
F652	C2
F653	B13
F654	B11
F655	D10
F656	E9
F657	E10
F658	F9
F659	C10
F660	H3
F661	H3
F662	I14
F663	F10
F664	C9
F665	E10
F666	D2
F667	A11
F668	E9
F669	B2
F670	B11
F671	A2
F673	A3
F674	A3
F675	H6
F680	C2
F681	J3
F682	J4
F683	I4
F684	H5
F685	I5
F686	J8
F687	A6
F688	A9
F689	A9
F690	A10
F691	A8
F692	C14
F693	E14
F694	E14
F695	A7
F696	A8
F697	A8
F698	C9
F699	I14

B65



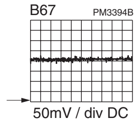
500mV / div DC
2us / div

B66



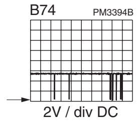
50mV / div DC
50us / div

B67



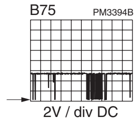
50mV / div DC
50us / div

B74



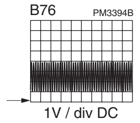
2V / div DC
20ms / div

B75



2V / div DC
20ms / div

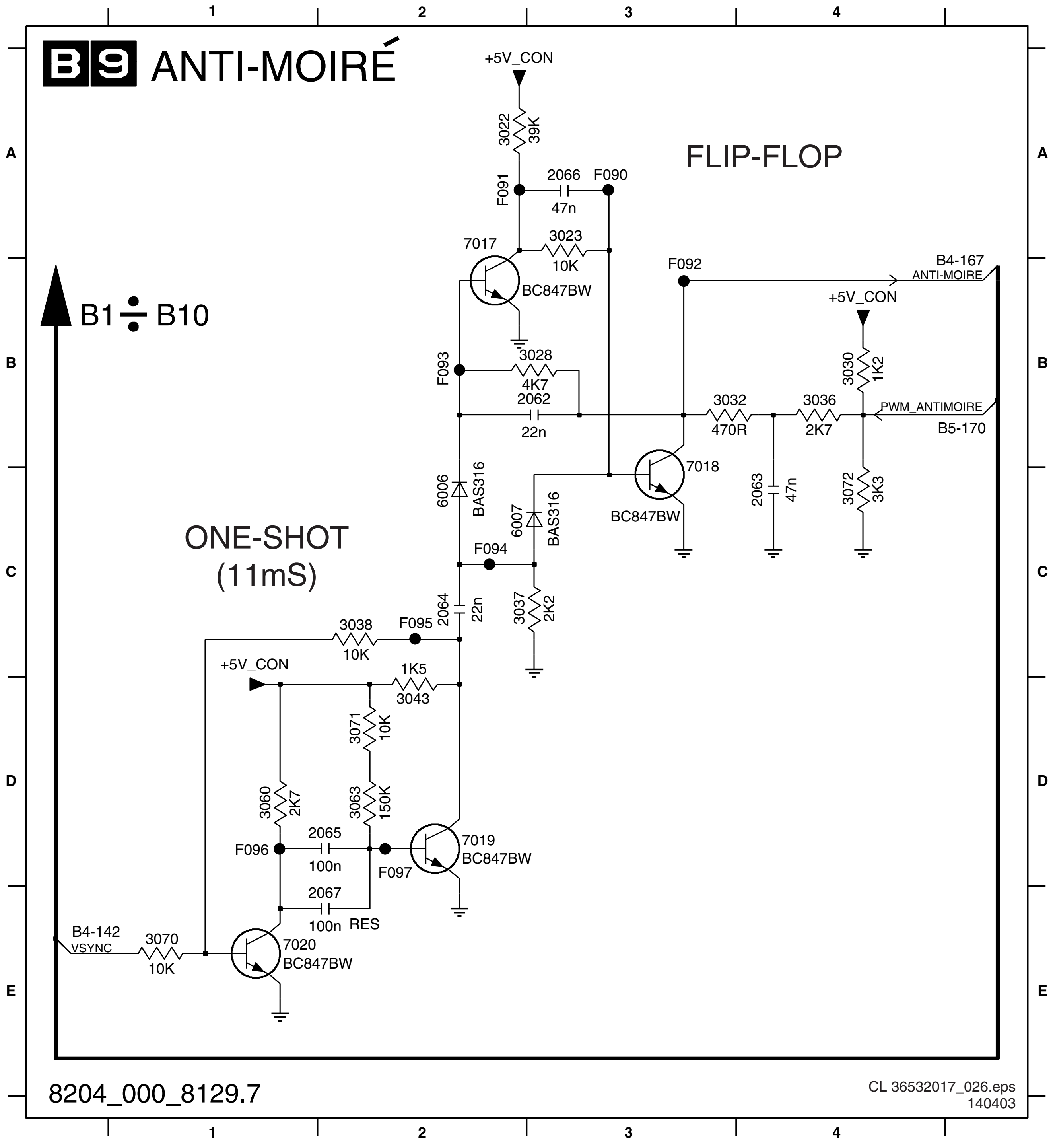
B76



1V / div DC
250ns / div

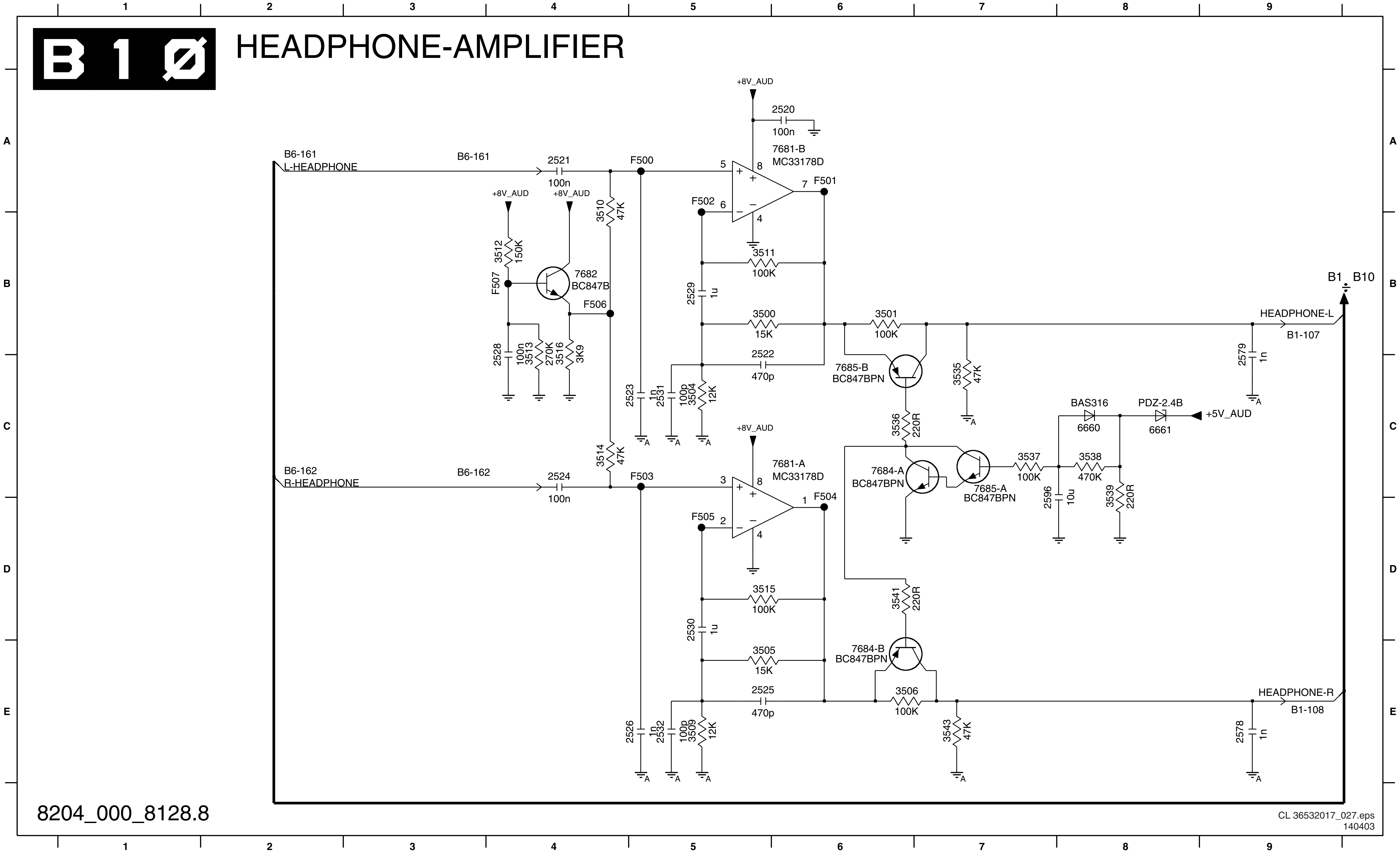
Small Signal Board: Anti-moiré

2062 B3
2063 C4
2064 C2
2065 D2
2066 A3
2067 E2
3022 A2
3023 A3
3028 B3
3030 B4
3032 B3
3036 B4
3037 C2
3038 C2
3043 D2
3060 D1
3063 D2
3070 E1
3071 D2
3072 C4
6006 C2
6007 C2
7017 A2
7018 C3
7019 D2
7020 E1
F090 A3
F091 A2
F092 B3
F093 B2
F094 C2
F095 C2
F096 D1
F097 D2


B9 ANTI-MOIRÉ
FLIP-FLOP
ONE-SHOT (11mS)
B1 ÷ B10
+5V_CON
3022 39K
F091
2066 47n
F090
7017 BC847BW
3023 10K
F092
B4-167 ANTI-MOIRE
+5V_CON
3030 1K2
F093
3028 4K7
2062 22n
3032 470R
3036 2K7
PWM_ANTIMOIRE
B5-170
6006 BAS316
6007 BAS316
7018 BC847BW
2063 47n
3072 3K3
F094
2064 22n
3037 2K2
3038 10K
F095
+5V_CON
1K5 3043
3071 10K
3060 2K7
3063 150K
F096
2065 100n
F097
7019 BC847BW
2067 100n
RES
B4-142 VSYNC
3070 10K
7020 BC847BW
A B C D E
1 2 3 4
8204_000_8129.7
CL 36532017_026.eps
140403

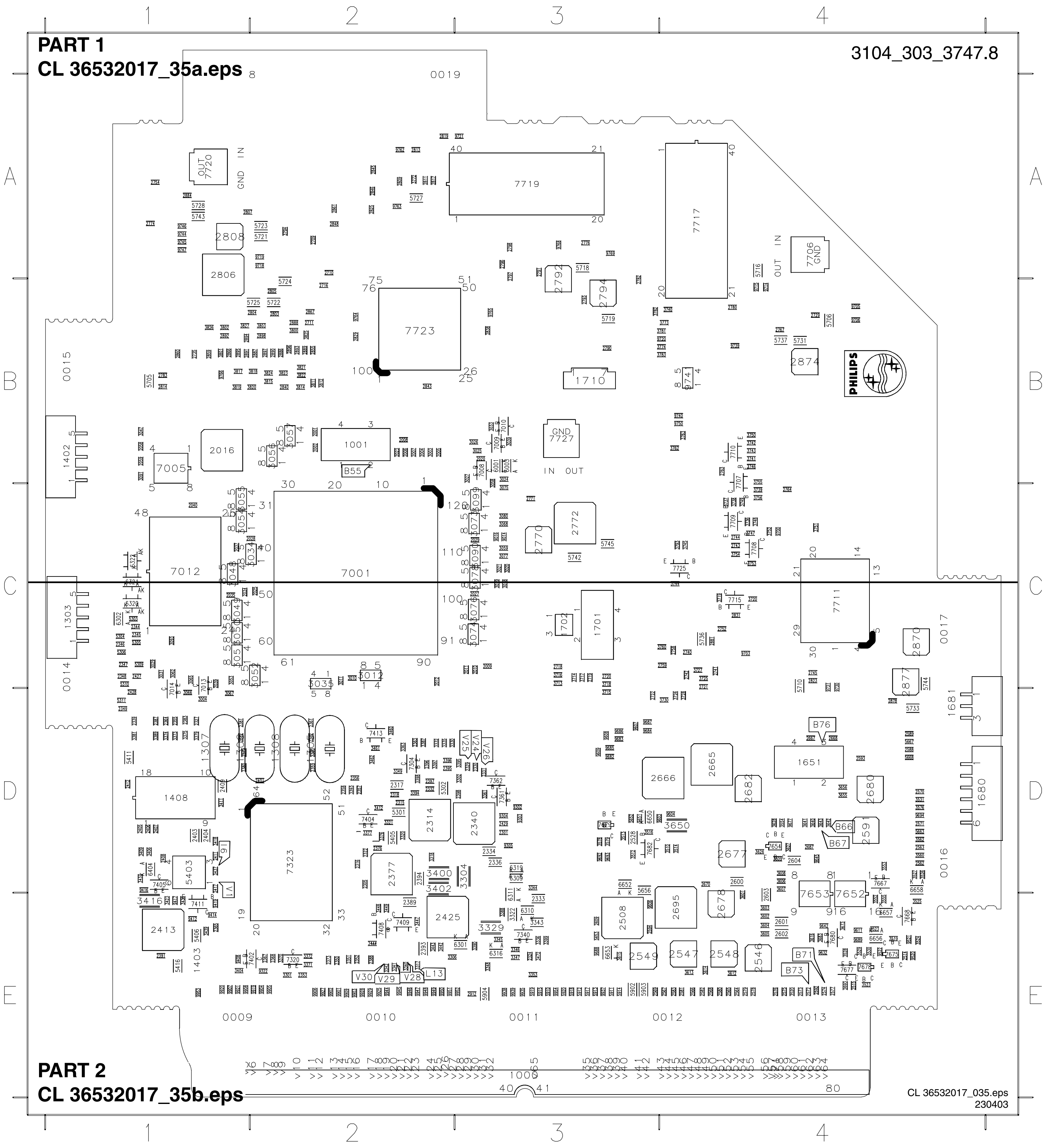
Personal Notes:

Small Signal Board: Headphone Amplifier


B10
HEADPHONE-AMPLIFIER
+8V_AUD
2520
100n
7681-B
MC33178D
B6-161
L-HEADPHONE
B6-161
2521
100n
F500
5
8
7
F501
4
6
F502
+8V_AUD
+8V_AUD
3510
47K
3512
150K
F507
7682
BC847B
F506
3511
100K
2529
1u
3500
15K
3501
100K
2528
100n
3513
270K
3516
3K9
2522
470p
7685-B
BC847BPN
3535
47K
2523
1n
2531
100p
3504
12K
3536
220R
B1 B10
HEADPHONE-L
B1-107
2579
1n
BAS316
6660
PDZ-2.4B
6661
+5V_AUD
+8V_AUD
3514
47K
B6-162
R-HEADPHONE
B6-162
2524
100n
F503
3
8
7681-A
MC33178D
1
F504
F505
2
4
7684-A
BC847BPN
7685-A
BC847BPN
3537
100K
3538
470K
2596
10u
3539
220R
3515
100K
2530
1u
3541
220R
3505
15K
7684-B
BC847BPN
2525
470p
3506
100K
HEADPHONE-R
B1-108
2526
1n
2532
100p
3509
12K
3543
47K
2578
1n
8204_000_8128.8
CL 36532017_027.eps
140403
1 2 3 4 5 6 7 8 9
A B C D E

2520	A6
2521	A4
2522	C5
2523	C5
2524	C4
2525	E5
2526	E5
2528	B4
2529	B5
2530	D5
2531	C5
2532	E5
2578	E9
2579	B9
2596	C7
3500	B5
3501	B6
3504	C5
3505	E5
3506	E6
3509	E5
3510	A4
3511	B5
3512	B4
3513	B4
3514	C4
3515	D5
3516	B4
3535	C7
3536	C6
3537	C7
3538	C8
3539	C8
3541	D6
3543	E7
6660	C8
6661	C8
7681-A	C6
7681-B	A6
7682	B4
7684-A	C6
7684-B	E6
7685-A	C7
7685-B	C6
F500	A5
F501	A6
F502	A5
F503	C5
F504	D6
F505	D5
F506	B4
F507	B4

Layout Small Signal Board (Overview Top Side)



0009	E1
0010	E2
0011	E3
0012	E4
0013	E4
0014	D1
0015	B1
0016	D4
0017	C4
0018	A1
0019	A2
1000	E3
1001	B2
1303	C1
1305	D2
1306	D2
1307	D1
1308	D2
1402	B1
1403	E1
1408	D1
1651	D4
1680	D4
1681	D4
1701	C3
1702	C3
1710	B3
2001	B2
2002	B2
2004	B2
2005	B2
2006	B2
2007	B2
2008	B2
2009	C3
2010	C3
2011	C3
2012	C2
2016	B1
2020	B3
2023	B2
2025	C2
2027	C3
2028	C2
2029	C3
2034	C1
2035	C1
2037	C1
2039	C1
2040	C1
2058	B1
2059	B1
2301	D3
2305	D2
2314	D2
2315	D2
2316	D2
2317	D2
2318	D2
2322	D2
2324	E3
2327	D1
2329	D3
2330	D3
2331	D3
2332	D2
2333	E3
2334	D3
2336	D3
2339	D1
2340	D3
2344	C1
2345	C1
2346	C1
2347	C1
2348	C1
2349	D1
2350	E2
2351	E2
2352	E2
2353	E2
2355	D1
2356	D2
2357	D2
2358	D2
2359	D2
2360	D2
2361	D2
2362	D2
2363	D2
2364	D1
2365	E1
2367	E2
2368	E2
2373	E2
2376	D2
2377	D2
2379	D1
2380	D1
2381	D1
2382	D1
2383	D1
2387	D1
2388	E2
2389	E2
2391	E1
2393	E2
2394	D2
2395	D2
2396	D2
2397	D2
2398	D3
2401	D2
2403	D1
2404	D1
2405	D1
2406	D1
2407	D1
2408	D1
2409	D1
2411	D1
2412	D1
2413	E1
2417	D1
2425	E3
2427	C1
2428	D1
2429	D3
2508	E3
2514	E4
2515	E4
2528	D3
2546	E4
2547	E4
2548	E4
2549	E3
2562	D4
2563	D4
2564	E4
2565	E4
2566	E4
2567	E4
2568	E4
2569	E3
2570	D4
2571	D4
2572	E4
2573	E4
2574	E4
2575	E4
2576	E4
2577	E4
2578	E4
2579	E4
2580	E4
2581	E4
2582	E4
2583	E4
2588	D4
2589	D4
2591	D4
2592	E4
2593	D4
2594	E3
2600	D4
2601	E4
2602	E4
2603	E4
2604	D4
2609	E3
2665	D4
2666	D3
2667	D4
2668	D4
2670	D4
2677	D4
2678	E4
2680	D4
2682	D4
2687	D4
2693	E4
2695	D4
2709	A2
2710	A2
2711	B2
2716	B2
2718	C3
2719	C3
2720	C3
2721	C4
2722	D3
2729	B4
2735	B1
2740	C4
2741	C4
2742	C4
2743	C4
2744	C4
2745	C4
2752	C4
2754	A1
2758	C4
2759	C4
2763	B4
2764	C4
2767	B4
2770	C3
2771	C3
2772	C3
2774	A1
2776	A3
2780	B4
2782	B3
2783	B1
2790	B3
2791	A3
2792	B3
2793	B3
2794	B3
2796	A3
2797	A3
2798	A3
2803	B2
2804	B2
2805	B2
2806	B1
2807	A1
2808	A1
2809	A2
2811	A2
2813	A2
2814	B1
2817	A2
2819	A2
2823	C4
2825	A2
2829	B2
2831	C4
2838	B3
2840	B2
2843	B2
2845	A2
2846	A2
2848	A2
2855	B2
2859	B1
2860	B1
2861	A2
2866	B1
2867	B2
2870	C4
2874	B4
2877	C4
2878	D4
2881	C4
2884	A1
2886	B2
2887	B2
2888	B2
2889	B2
2890	B2
2891	B1
2892	B1
2893	B2
2894	B1
2895	B1
2896	B2
2897	B2
2898	B2
2912	E3
3003	B2
3004	D1
3010	C2
3011	C2
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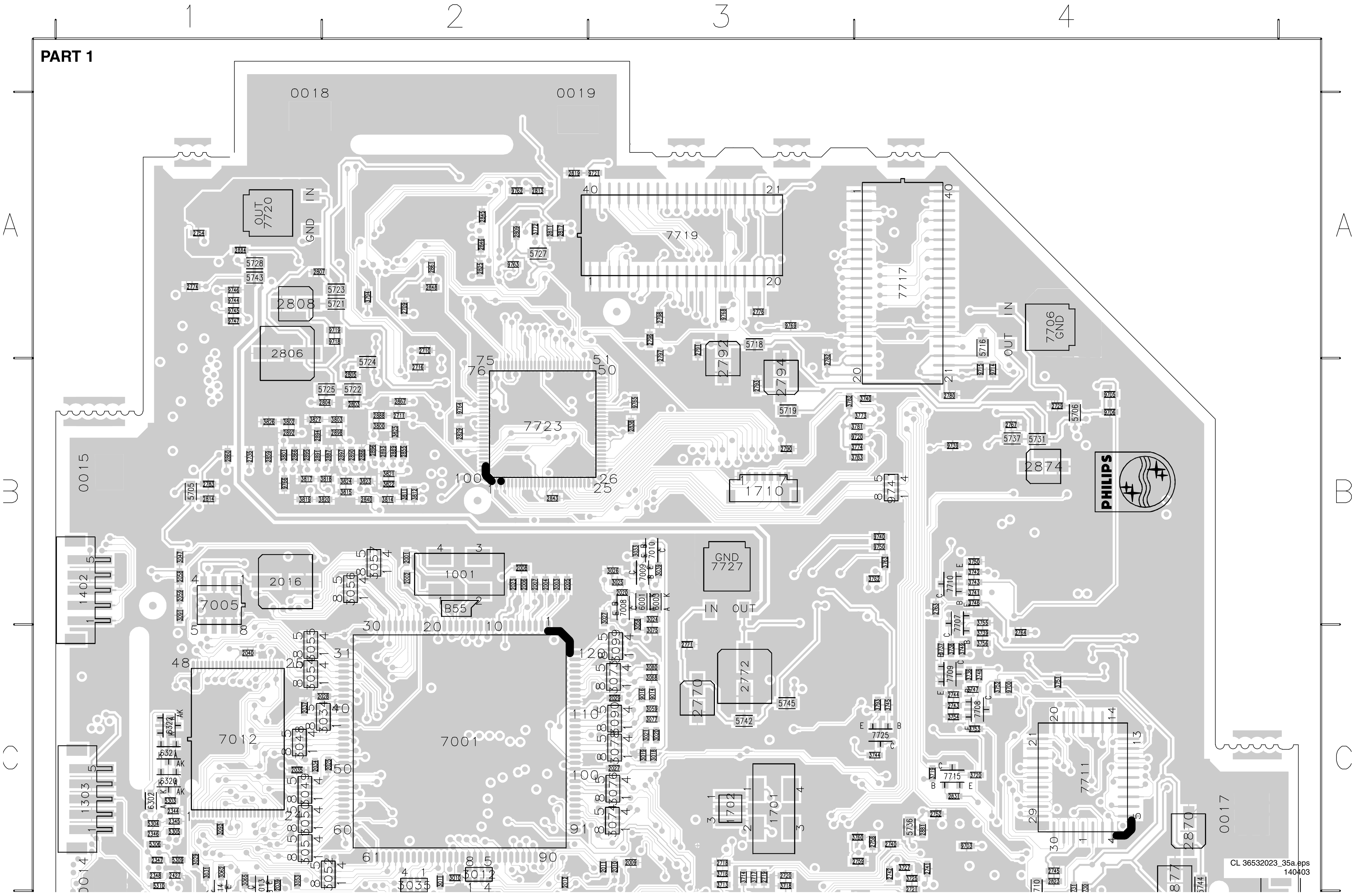
Layout Small Signal Board (Part 1 Top Side)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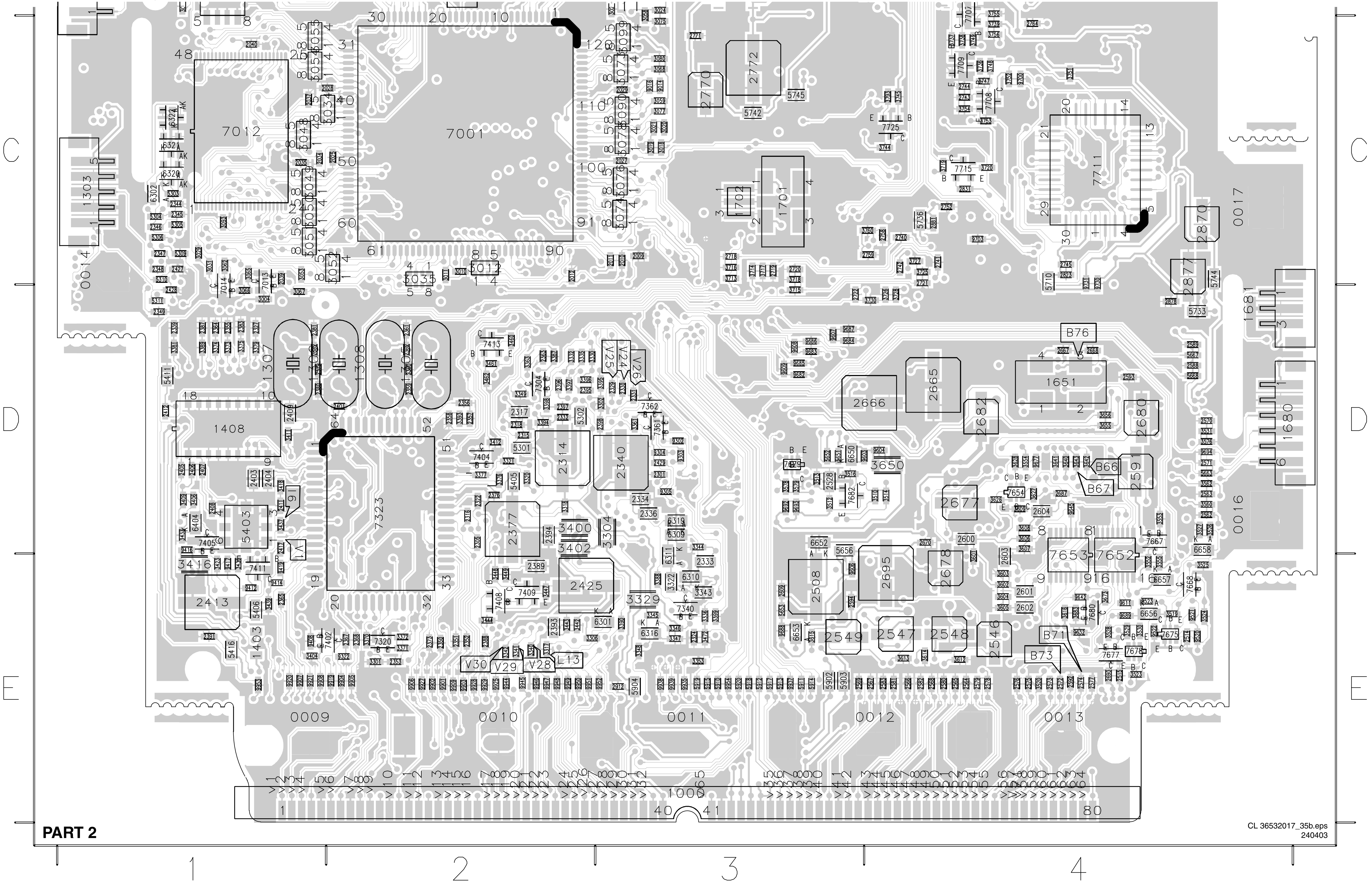
Layout Small Signal Board (Part 2 Top Side)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PART 2

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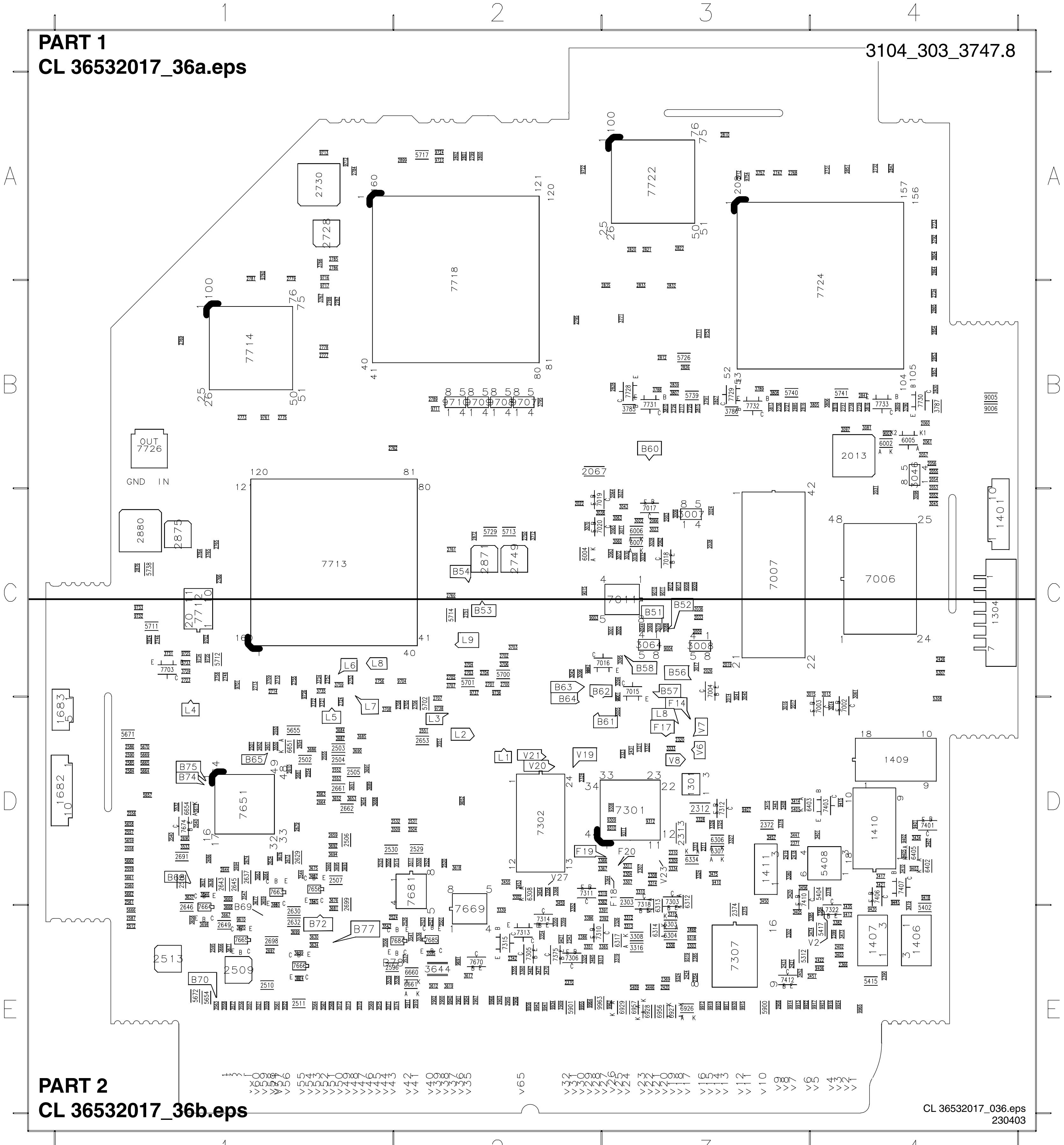
Layout Small Signal Board (Overview Bottom Side)



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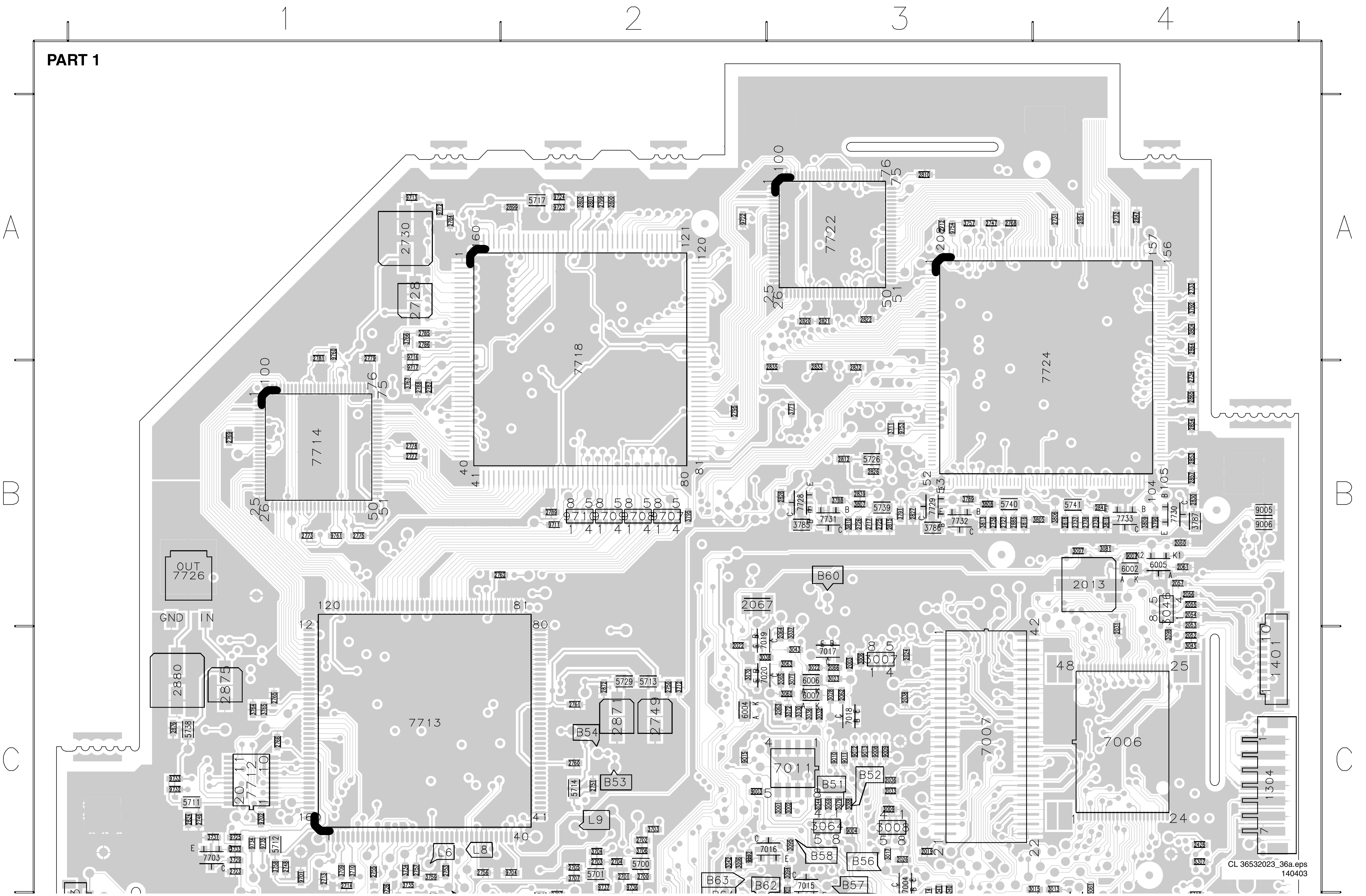
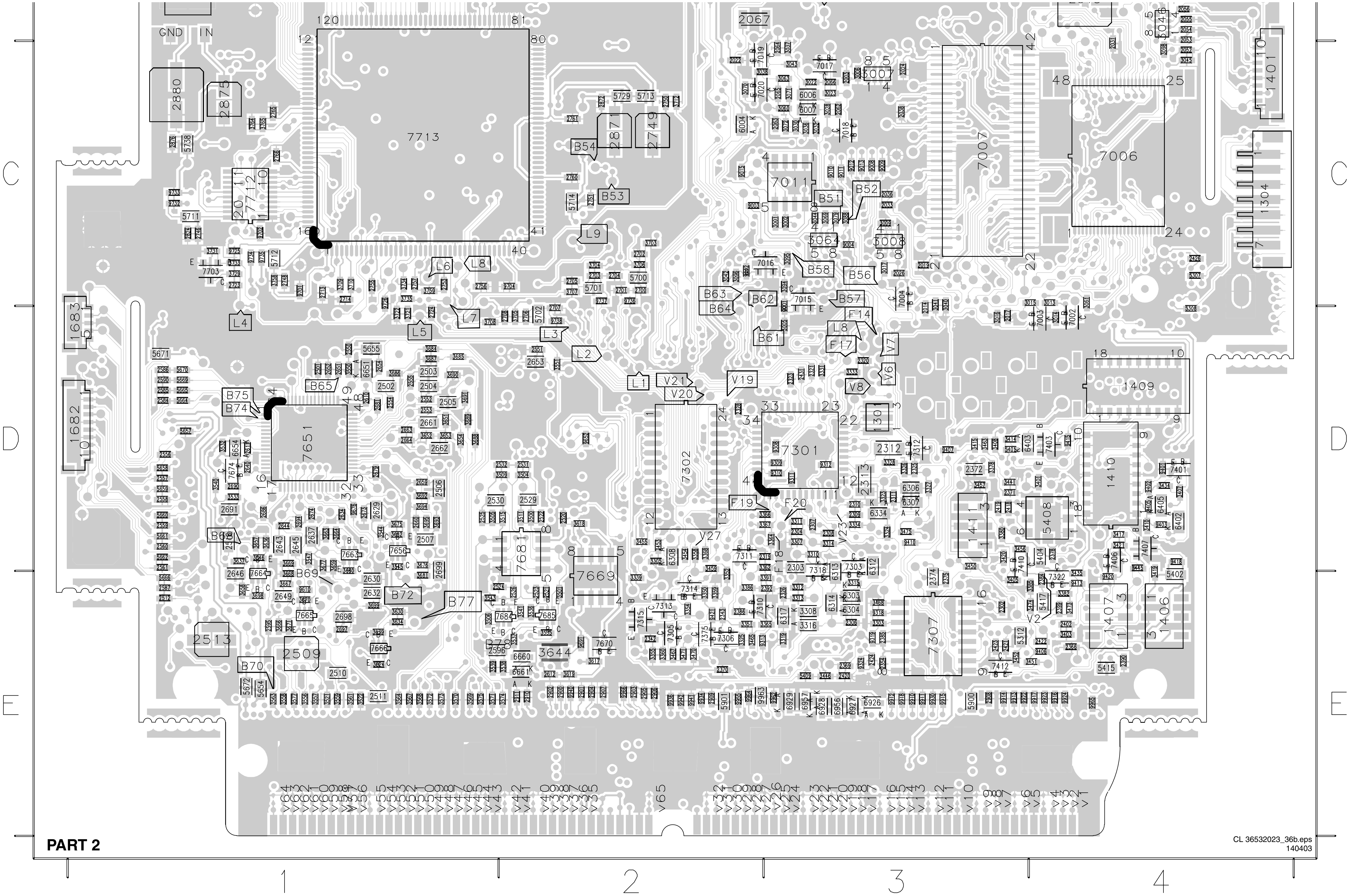
2371	D3	2664	D1	2832	B3	3324	D3	3547	D1	3766	A1	6929	E3	9403	D4		
2372	D3	2673	D1	2833	B3	3325	E2	3550	D1	3767	B1	6956	E3	9405	D4		
2374	E3	2674	D1	2835	B3	3326	D3	3551	D2	3771	B3	6957	E3	9406	E4		
2375	E3	2679	D1	2839	B3	3327	D3	3556	E1	3785	B3	7002	D4	9407	D3		
2378	D4	2681	D1	2841	B4	3328	D3	3557	E1	3786	B3	7003	D4	9410	D3		
2384	E4	2686	D1	2847	A4	3331	D3	3558	E1	3787	B4	7004	D3	9413	E4		
2385	E3	2690	D1	2851	A4	3333	D3	3559	E1	3788	B3	7006	C4	9415	D4		
2386	E2	2691	D1	2853	B4	3334	D3	3561	E1	3789	B3	7007	C4	9418	D4		
2390	E4	2694	D1	2854	B4	3339	E2	3563	E1	3790	B4	7011	C3	9420	E4		
2392	E3	2697	E1	2857	B4	3350	E2	3564	E1	3791	B3	7015	D3	9421	E2		
2399	E4	2698	E1	2864	A4	3351	E2	3567	E1	3792	A4	7016	C2	9610	E1		

Layout Small Signal Board (Part 1 Bottom Side)


PART 1
1
2
3
4
A
B
C
7722
7724
7718
7714
7713
7726
OUT
GND
IN
2730
2728
2880
2875
2871
2749
7712
7007
7006
7011
2013
2067
1401
1304
9705
9706
B51
B52
B53
B54
B56
B57
B58
B60
B62
B63
L6
L8
L9
3007
3008
3064
5046
5739
5740
5741
5726
5729
5713
5711
5712
5717
5700
5701
7703
7731
7732
7733
7728
7729
7730
7015
7016
7017
7019
7020
7018
6002
6004
6005
6006
6007
3785
3786
3787
9709
9710
9708
9707

CL 36532023_36a.eps
140403

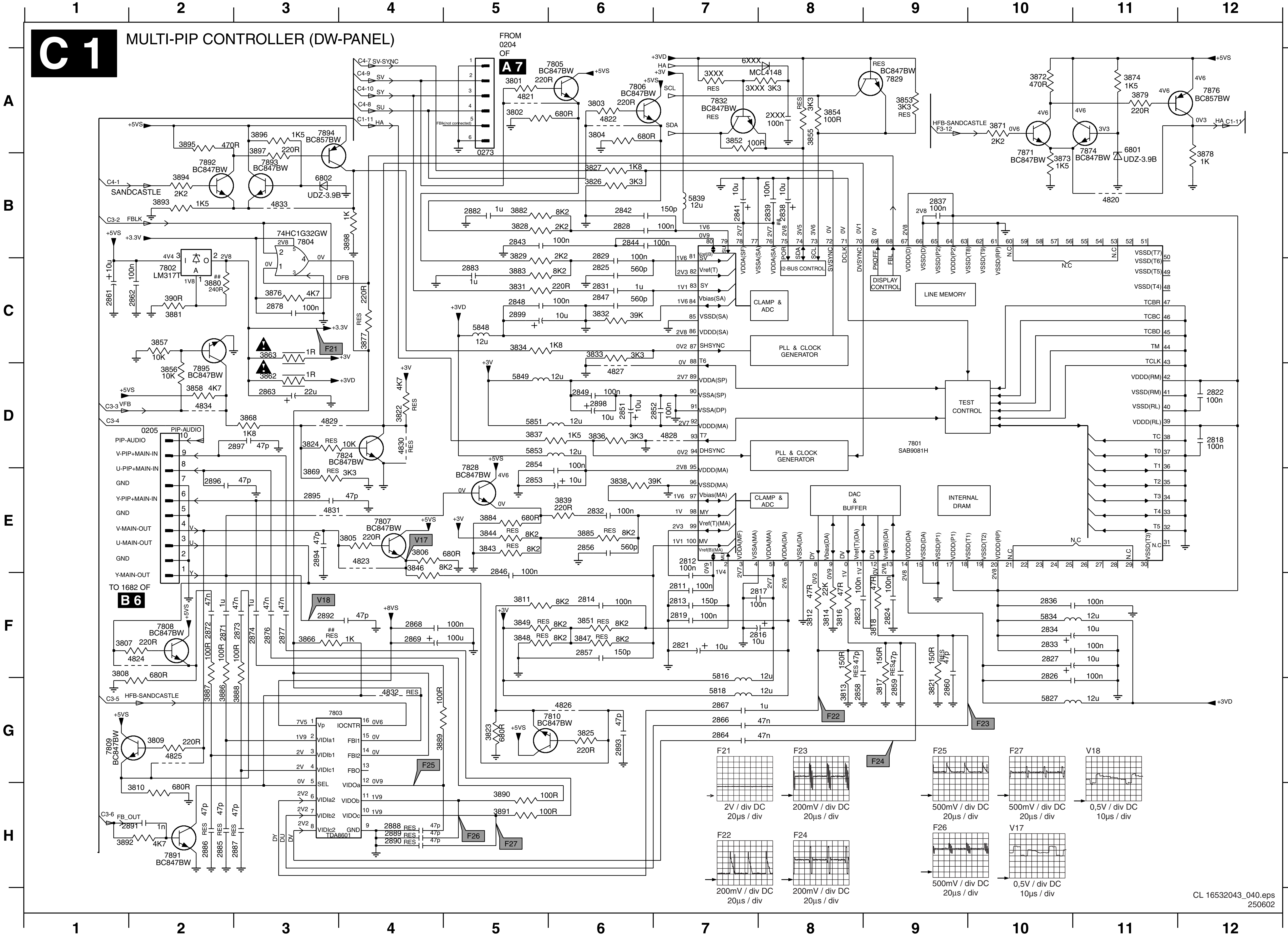
Layout Small Signal Board (Part 2 Bottom Side)


C
D
E
1
2
3
4
7713
7651
7302
7301
7007
7006
7011
1409
1410
1682
1683
1401
1304
2880
2875
2513
2509
7307
7669
7681
1406
1407
5408
1411

PART 2

CL 36532023_36b.eps
140403

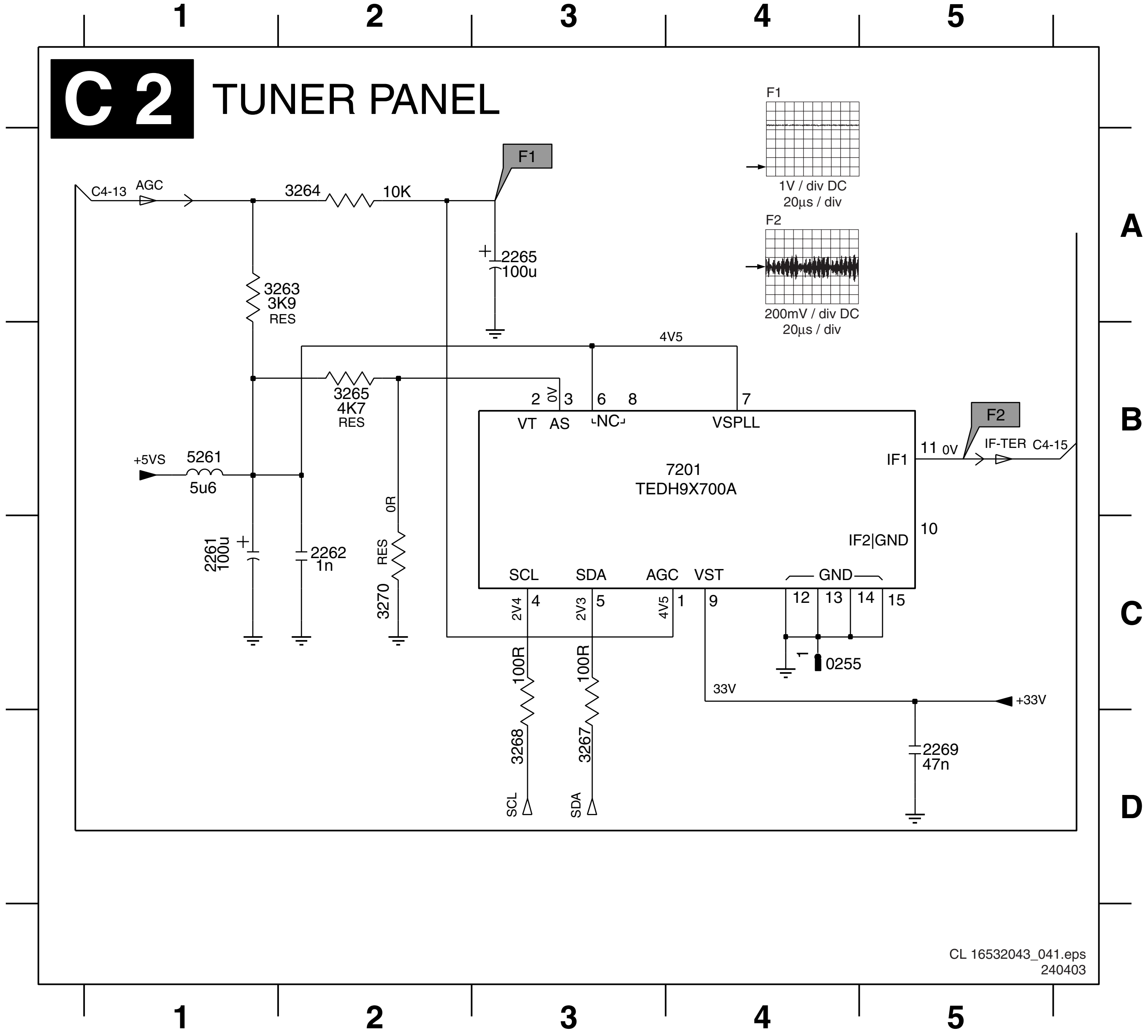
DW Panel: Multi PIP Controller


C 1
MULTI-PIP CONTROLLER (DW-PANEL)
FROM 0204 OF A 7
0273
TO 1682 OF B 6
0205 PIP-AUDIO
PIP-AUDIO
V-PIP+MAIN-IN
U-PIP+MAIN-IN
GND
Y-PIP+MAIN-IN
GND
V-MAIN-OUT
U-MAIN-OUT
GND
Y-MAIN-OUT
SANDCASTLE
FBLK
VFB
HFB-SANDCASTLE
FB_OUT
HFB-SANDCASTLE F3-12
7804 74HC1G32GW
7802 LM3171
7803 TDA8601
7801 SAB9081H
7805 BC847BW
7806 BC847BW
7807 BC847BW
7808 BC847BW
7809 BC847BW
7810 BC847BW
7824 BC847BW
7828 BC847BW
7829 BC847BW
7832 BC847BW
7871 BC847BW
7874 BC847BW
7876 BC857BW
7891 BC847BW
7892 BC847BW
7893 BC847BW
7894 BC857BW
7895 BC847BW
6801 UDZ-3.9B
6802 UDZ-3.9B
6XXX MCL4148
CLAMP & ADC
PLL & CLOCK GENERATOR
DAC & BUFFER
LINE MEMORY
TEST CONTROL
INTERNAL DRAM
DISPLAY CONTROL
I2-BUS CONTROL
F21 2V / div DC 20µs / div
F22 200mV / div DC 20µs / div
F23 200mV / div DC 20µs / div
F24 200mV / div DC 20µs / div
F25 500mV / div DC 20µs / div
F26 500mV / div DC 20µs / div
F27 500mV / div DC 20µs / div
V17 0,5V / div DC 10µs / div
V18 0,5V / div DC 10µs / div
CL 16532043_040.eps
250602

0205	D2
0273	B5
2811	F7
2812	E7
2813	F7
2814	F6
2816	F7
2817	F8
2818	D12
2819	F7
2821	F7
2822	D12
2823	F8
2824	F9
2825	C6
2826	G10
2827	F10
2828	B6
2829	C6
2831	C6
2832	E6
2833	F10
2834	F10
2836	F10
2837	B9
2838	B8
2839	B8
2841	B7
2842	B6
2843	B5
2844	B6
2846	F5
2847	C6
2848	C5
2849	D6
2851	D6
2852	D7
2853	E5
2854	D5
2856	E6
2857	F6
2858	G8
2859	G9
2860	G9
2861	C1
2862	C2
2863	D3
2864	G7
2866	G7
2867	G7
2868	F4
2869	F4
2871	F2
2872	F2
2873	F3
2874	F3
2876	F3
2877	F3
2878	C3
2882	B5
2883	C5
2885	H2
2886	H2
2887	H2
2888	H4
2889	H4
2890	H4
2891	H2
2892	F3
2893	G6
2894	E3
2895	E3
2896	E2
2897	D3
2898	D6
2899	C5
2XXX	A8
3801	A5
3802	A5
3803	A6
3804	A6
3805	E4
3806	E4
3807	F1
3808	F1
3809	G2
3810	H2
3811	F5
3812	F8
3813	G8
3814	F8
3816	F8
3817	G9
3818	F9
3821	G9
3822	D4
3823	G5
3824	D3
3825	G6
3826	B6
3827	B6
3828	B5
3829	C5
3831	C5
3832	C6
3833	C6
3834	C5
3836	D6
3837	D5
3838	E6
3839	E6
3843	E5
3844	E5
3846	E4
3847	F6
3848	F5
3849	F5
3851	F6
3852	A7
3853	A9
3854	A8
3855	A8
3856	D2
3857	C2
3858	D2
3862	D3
3863	C3
3866	F3
3868	D3
3869	E3
3871	A10
3872	A10
3873	B10
3874	A11
3876	C3
3877	C4
3878	B12
3879	A11
3880	C2
3881	C2
3882	B5
3883	C5
3884	E5
3885	E6
3886	G2
3887	G2
3888	G3
3889	G4
3890	H5
3891	H5
3892	H1
3893	B2
3894	B2
3895	A2
3896	A3
3897	B3
3898	B4
3XXX	A7
3XXX	A7
4820	B11
4821	A5
4822	A6
4823	E4
4824	F2
4825	G2
4826	G6
4827	D6
4828	D7
4829	D3
4830	D4
4831	E3
4832	G4
4833	B3
4834	D2
5816	G7
5818	G7
5827	G10
5834	F10
5839	B7
5848	C5
5849	D5
5851	D5
5853	D5
6801	A11
6802	B3
6XXX	A7
7801	D9
7802	C2
7803	G3
7804	B3
7805	A5
7806	A6
7807	E4
7808	F2
7809	G1
7810	G5
7824	D3
7828	D5
7829	A9
7832	A7
7871	B10
7874	B11

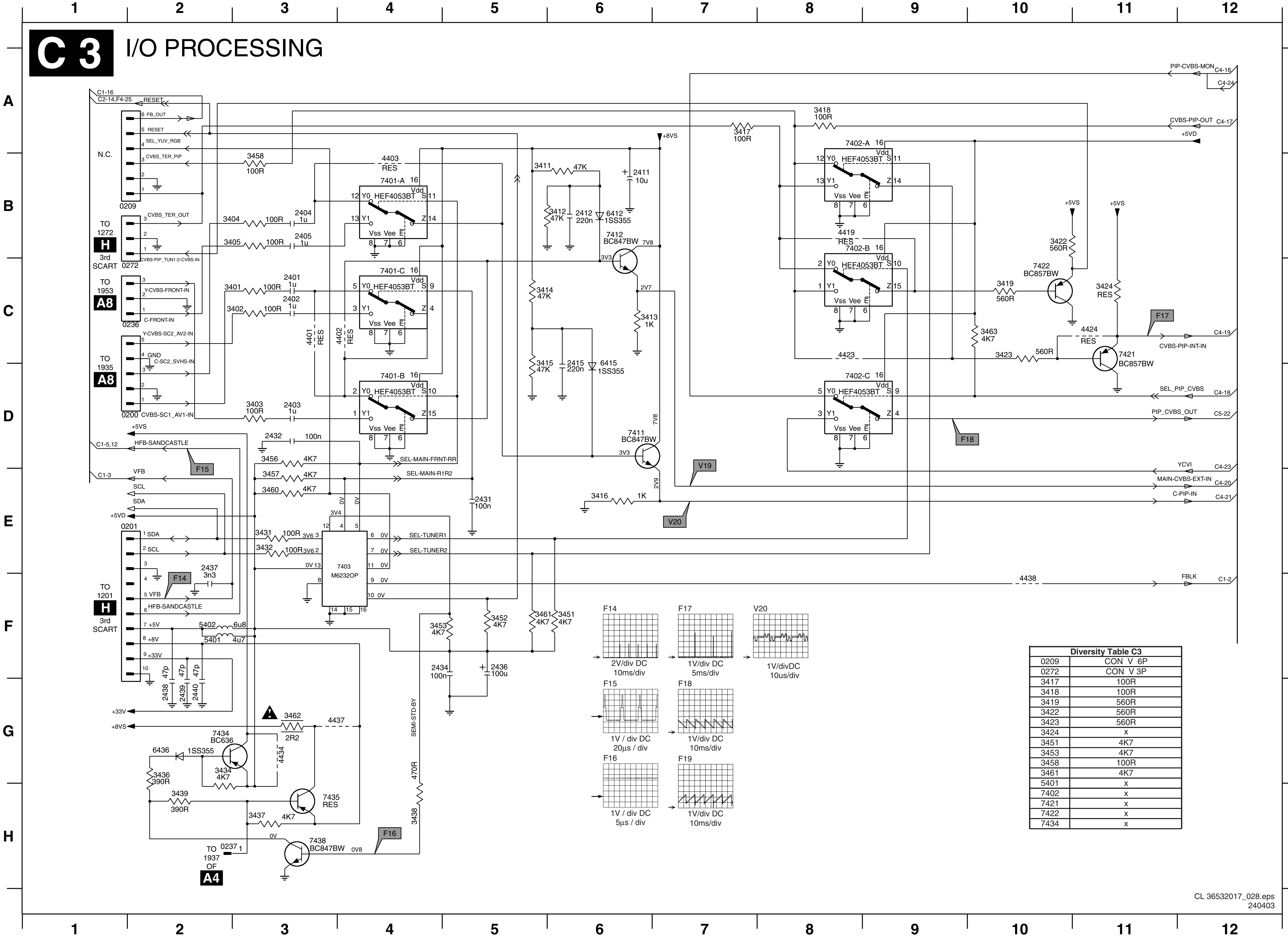
DW Panel: Tuner

0255 C5 2261 C1 2262 C2 2265 A3 2269 D5 3263 A2 3264 A2 3265 B2 3267 D3 3268 D3 3270 C2 5261 B1 7201 B4


1
2
3
4
5
A
B
C
D
C 2
TUNER PANEL
C4-13
AGC
3264
10K
F1
2265
100u
3263
3K9
RES
4V5
3265
4K7
RES
+5VS
5261
5u6
2261
100u
2262
1n
0R
RES
3270
2 0V 3 6 8 7
VT AS NC VSPLL
7201
TEDH9X700A
IF1
11 0V
F2
IF-TER
C4-15
10
IF2|GND
SCL SDA AGC VST
GND
4 5 1 9 12 13 14 15
2V4
2V3
4V5
0255
33V
+33V
100R
3268
100R
3267
SCL
SDA
2269
47n
F1
1V / div DC
20µs / div
F2
200mV / div DC
20µs / div
CL 16532043_041.eps
240403

Personal Notes:

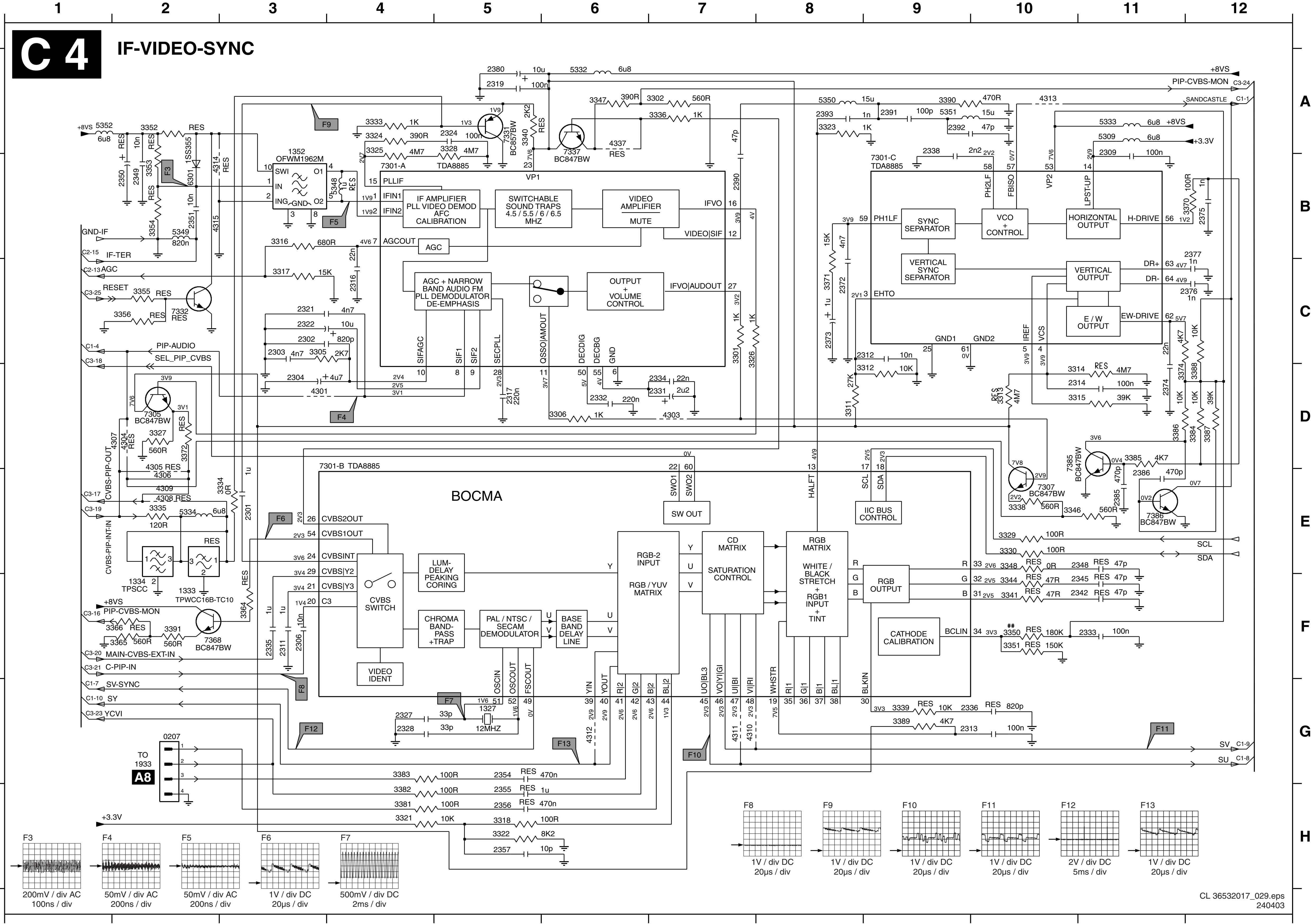
DW Panel: I/O Processing


C 3
I/O PROCESSING
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H
C1-16
C2-14,F4-25
RESET
FB_OUT
SEL_YUV_RGB
CVBS_TER_PIP
N.C.
0209
TO 1272
H
3rd SCART
0272
CVBS_TER_OUT
CVBS-PIP_TUN1-2-CVBS-IN
TO 1953
A8
Y-CVBS-FRONT-IN
C-FRONT-IN
0236
Y-CVBS-SC2_AV2-IN
GND
C-SC2_SVHS-IN
TO 1935
A8
0200
CVBS-SC1_AV1-IN
3458 100R
4403 RES
3404 100R
2404 1u
3405 100R
2405 1u
3401 100R
2401 1u
3402 100R
2402 1u
4401 RES
4402 RES
3403 100R
2403 1u
7401-A HEF4053BT
7401-C HEF4053BT
7401-B HEF4053BT
Vdd
Vss Vee E
Y0 Y1 Z S
+8VS
3411 47K
2411 10u
3412 47K
2412 220n
6412 1SS355
7412 BC847BW
7V8
3V3
2V7
3413 1K
3414 47K
3415 47K
2415 220n
6415 1SS355
7411 BC847BW
2V9
3416 1K
V19
V20
3417 100R
3418 100R
7402-A HEF4053BT
4419 RES
7402-B HEF4053BT
4423
7402-C HEF4053BT
F18
+5VS
3422 560R
7422 BC857BW
3419 560R
3424 RES
3463 4K7
F17
4424 RES
3423 560R
7421 BC857BW
PIP-CVBS-MON
C4-16
C4-24
CVBS-PIP-OUT
C4-17
+5VD
CVBS-PIP-INT-IN
C4-19
SEL_PIP_CVBS
C4-18
PIP_CVBS_OUT
C5-22
YCVI
C4-23
MAIN-CVBS-EXT-IN
C4-20
C-PIP-IN
C4-21
FBLK
C1-2
4438
+5VS
C1-5,12
HFB-SANDCASTLE
F15
C1-3
VFB
SCL
SDA
+5VD
0201
2432 100n
3456 4K7
3457 4K7
3460 4K7
SEL-MAIN-FRNT-RR
SEL-MAIN-R1R2
2431 100n
3431 100R
3432 100R
3V6
3V4
0V
7403 M6232OP
SEL-TUNER1
SEL-TUNER2
2437 3n3
F14
TO 1201
H
3rd SCART
+5V
+8V
+33V
5402 6u8
5401 4u7
2438 47p
2439 47p
2440 47p
3453 4K7
3452 4K7
3461 4K7
3451 4K7
2434 100n
2436 100u
SEMI-STD-BY
+33V
+8VS
3462 2R2
4437
7434 BC636
6436 1SS355
4434
3436 390R
3434 4K7
3439 390R
7435 RES
3437 4K7
3438 470R
F16
TO 1937 OF
A4
0237
7438 BC847BW
0V8
F14
2V/div DC
10ms/div
F17
1V/div DC
5ms/div
V20
1V/divDC
10us/div
F15
1V / div DC
20µs / div
F18
1V/div DC
10ms/div
F16
1V / div DC
5µs / div
F19
1V/div DC
10ms/div
CL 36532017_028.eps
240403

Diversity Table C3	
0209	CON V 6P
0272	CON V 3P
3417	100R
3418	100R
3419	560R
3422	560R
3423	560R
3424	x
3451	4K7
3453	4K7
3458	100R
3461	4K7
5401	x
7402	x
7421	x
7422	x
7434	x

0200	D2
0201	E2
0209	B2
0236	C2
0237	H2
0272	C1
2401	C3
2402	C3
2403	D3
2404	B3
2405	B3
2411	B6
2412	B6
2415	C6
2431	E5
2432	D3
2434	F4
2436	F5
2437	E2
2438	G2
2439	G2
2440	G2
3401	C3
3402	C3
3403	D3
3404	B2
3405	B2
3411	B5
3412	B6
3413	C6
3414	C5
3415	C5
3416	E6
3417	A7
3418	A8
3419	C10
3422	B10
3423	C10
3424	C11
3431	E3
3432	E3
3434	G2
3436	G2
3437	H3
3438	H4
3439	H2
3451	F6
3452	F5
3453	F4
3456	D3
3457	E3
3458	B3
3460	E3
3461	F5
3462	G3
3463	C10
4401	C3
4402	C4
4403	B4
4419	B8
4423	C8
4424	C11
4434	G3
4437	G3
4438	F10
5401	F2
5402	F2
6412	B6
6415	C6
6436	G2
7401-A	B4
7401-B	D4
7401-C	C4
7402-A	A8
7402-B	B8
7402-C	D8
7403	E4
7411	D6
7412	B6
7421	C11
7422	C10
7434	G2
7435	H3
7438	H3

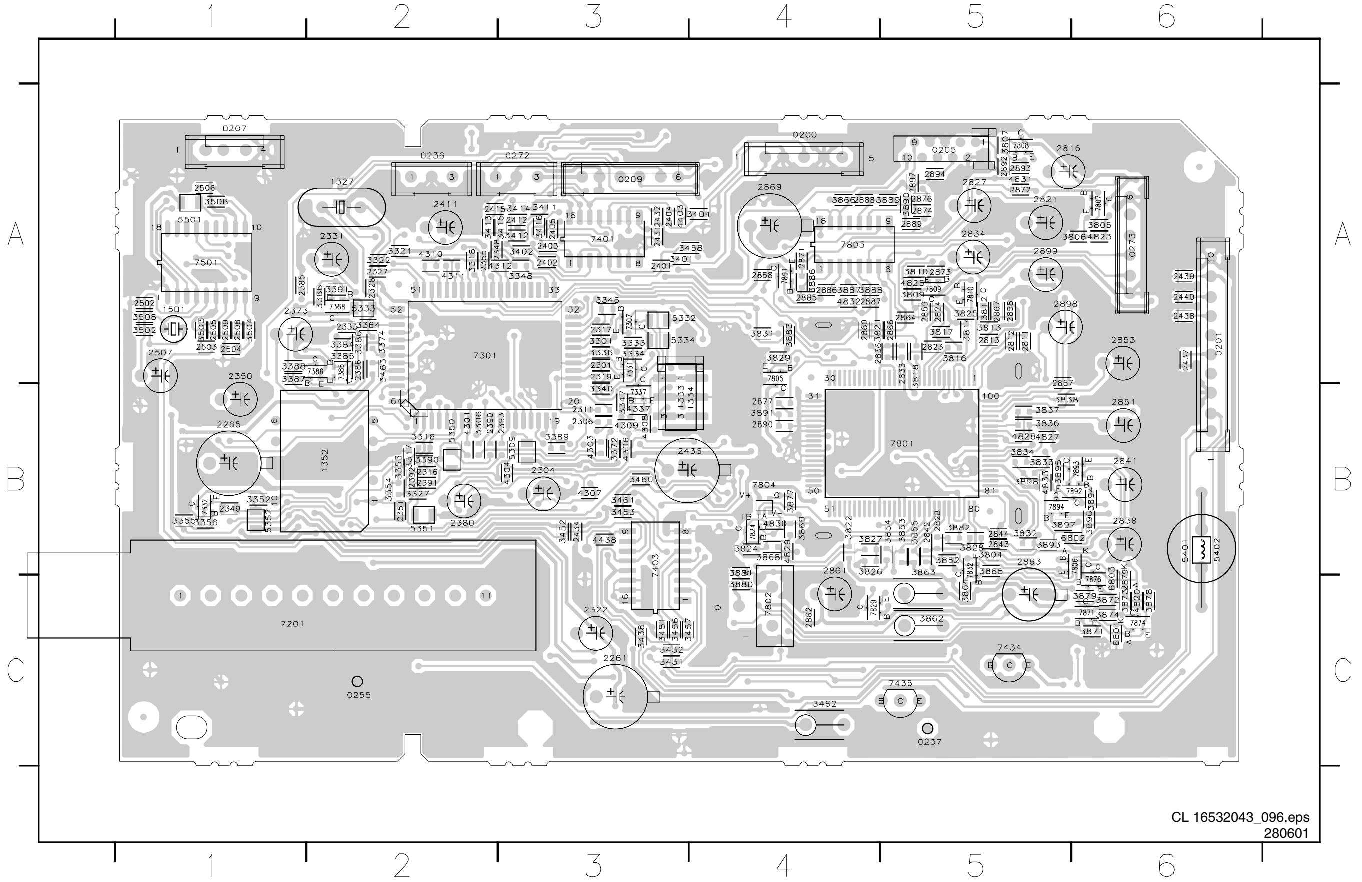
DW Panel: IF Video Sync


C 4
IF-VIDEO-SYNC
1352 OFWM1962M
7301-A TDA8885
IF AMPLIFIER PLL VIDEO DEMOD AFC CALIBRATION
SWITCHABLE SOUND TRAPS 4.5 / 5.5 / 6 / 6.5 MHZ
VIDEO AMPLIFIER MUTE
AGC
AGC + NARROW BAND AUDIO FM PLL DEMODULATOR DE-EMPHASIS
OUTPUT + VOLUME CONTROL
7301-C TDA8885
SYNC SEPARATOR
VCO + CONTROL
HORIZONTAL OUTPUT
VERTICAL SYNC SEPARATOR
VERTICAL OUTPUT
E / W OUTPUT
7301-B TDA8885
BOCMA
SW OUT
IIC BUS CONTROL
CVBS SWITCH
LUM-DELAY PEAKING CORING
CHROMA BAND-PASS +TRAP
PAL / NTSC / SECAM DEMODULATOR
BASE BAND DELAY LINE
VIDEO IDENT
RGB-2 INPUT
RGB / YUV MATRIX
CD MATRIX
SATURATION CONTROL
RGB MATRIX
WHITE / BLACK STRETCH + RGB1 INPUT + TINT
RGB OUTPUT
CATHODE CALIBRATION
TO 1933 A8
0207
+8VS
+3.3V
PIP-CVBS-MON
SANDCASTLE
GND-IF
IF-TER
AGC
RESET
PIP-AUDIO
SEL_PIP_CVBS
MAIN-CVBS-EXT-IN
C-PIP-IN
SV-SYNC
SY
YCVI
SCL
SDA
SV
SU
F3 200mV / div AC 100ns / div
F4 50mV / div AC 200ns / div
F5 50mV / div AC 200ns / div
F6 1V / div DC 20µs / div
F7 500mV / div DC 2ms / div
F8 1V / div DC 20µs / div
F9 1V / div DC 20µs / div
F10 1V / div DC 20µs / div
F11 1V / div DC 20µs / div
F12 2V / div DC 5ms / div
F13 1V / div DC 20µs / div
CL 36532017_029.eps 240403

0207	G2
1327	G5
1333	F2
1334	F2
1352	B3
2301	E3
2302	C3
2303	C3
2304	D3
2306	F3
2309	B11
2311	F3
2312	C9
2313	G9
2314	D10
2316	C4
2317	D5
2319	A5
2321	C3
2322	C3
2324	A5
2327	G4
2328	G4
2331	D7
2332	D6
2333	F11
2334	D7
2335	F3
2336	G9
2338	A9
2342	F11
2345	F11
2348	E11
2349	B2
2350	B2
2351	B2
2354	G5
2355	H5
2356	H5
2357	H5
2372	C8
2373	C8
2374	D11
2375	B12
2376	C12
2377	B12
2380	A5
2385	E11
2386	E11
2390	B7
2391	A9
2392	A9
2393	A8
3301	C7
3302	A7
3305	C3
3306	D6
3311	D8
3312	D9
3313	D10
3314	D10
3315	D10
3316	B3
3317	C3
3318	H5
3321	H4
3322	H5
3323	A8
3324	A4
3325	A4
3326	C7
3327	D2
3328	A5
3329	E10
3330	E10
3333	A4
3334	E3
3335	E2
3336	A7
3338	E10
3339	G9
3340	A5
3341	F10
3344	F10
3346	E10
3347	A6
3348	E10
3350	F10
3351	F10
3352	A2
3353	B2
3354	B2
3355	C2
3356	C2
3364	F3
3365	F2
3366	F1
3370	B12
3371	C8
3372	D2
3374	D11
3381	H4
3382	H4
3383	G4
3384	D12
3385	D11
3386	D11
3387	D12
3388	D12
3389	G9
3390	A9
3391	F2
4301	D3
4303	D7
4304	D2
4305	D2
4306	E2
4307	D2
4308	E2
4309	E2
4310	G7
4311	G7
4312	G6
4313	A10
4314	B2
4315	B2
4337	A6
5309	A11
5332	A6
5333	A11
5334	E2
5348	B4
5349	B2
5350	A8
5351	A9
5352	A1
6301	B2
7301-A	B4
7301-B	D3
7301-C	B9
7305	D2
7307	E10
7331	A5
7332	C2
7337	A6
7368	F3
7385	D10
7386	E11

Layout Double Window Panel (Top View)

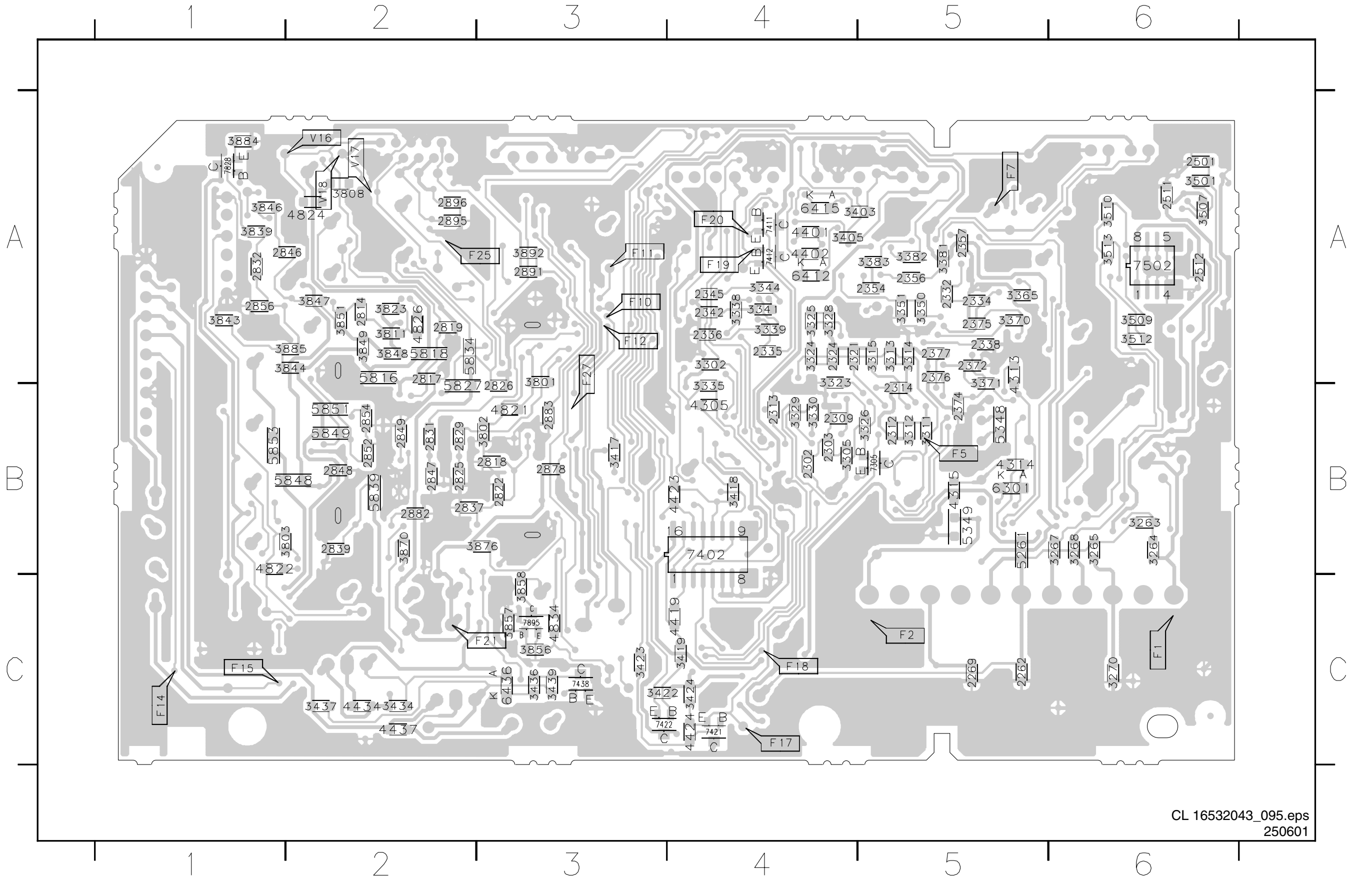
0200	A4	2328	A2	2434	B3	2838	B6	2885	A4	3348	A3	3416	A3	3813	A5	3864	C5	3897	B5	5332	A3	7801	B5
0201	A6	2331	A2	2436	B4	2841	B6	2886	A4	3352	B1	3431	C3	3814	A5	3865	B5	3898	B5	5333	A2	7802	C4
0205	A5	2333	A2	2437	A6	2842	B5	2887	A4	3353	B2	3432	C3	3816	A5	3866	A4	4301	B2	5334	A3	7803	A4
0207	A1	2348	A2	2438	A6	2843	B5	2888	A4	3354	B2	3438	C3	3817	A5	3868	B4	4303	B3	5350	B2	7804	B4
0209	A3	2349	B1	2439	A6	2844	B5	2889	A5	3355	B1	3451	C3	3818	A5	3869	B4	4304	B3	5351	B2	7805	A4
0236	A2	2350	A1	2440	A6	2851	B6	2890	B4	3356	B1	3452	B3	3821	A4	3871	C6	4306	B3	5352	B1	7806	B6
0237	C5	2351	B2	2502	A1	2853	A6	2892	A5	3364	A2	3453	B3	3822	B4	3872	C6	4307	B3	5401	B6	7807	A6
0255	C2	2355	A2	2503	A1	2857	A5	2893	A5	3366	A2	3456	C3	3824	B4	3873	C6	4308	B3	5402	B6	7808	A5
0272	A3	2373	A1	2504	A1	2858	A5	2894	A5	3372	B3	3457	C3	3825	A5	3874	C6	4309	B3	5501	A1	7809	A5
0273	A6	2380	B2	2505	A1	2859	A5	2897	A5	3374	A2	3458	A4	3826	B4	3877	B4	4310	A2	6801	C6	7810	A5
1327	A2	2385	A1	2506	A1	2860	A4	2898	A5	3384	A2	3460	B3	3827	B4	3878	C6	4311	A2	6802	B6	7824	B4
1333	B3	2386	A2	2507	A1	2861	B4	2899	A5	3385	A2	3461	B3	3828	B5	3879	C6	4312	A3	6803	C6	7829	C4
1334	B4	2390	B2	2508	A1	2862	C4	3301	A3	3386	A2	3462	C4	3829	A4	3880	C4	4337	B3	7201	C1	7832	B5
1352	B2	2391	B2	2509	A1	2863	B5	3306	B2	3387	A1	3463	A2	3831	A4	3881	B4	4403	A3	7301	A2	7871	C6
1501	A1	2392	B2	2811	A5	2864	A5	3316	B2	3388	A1	3502	A1	3832	B5	3882	B5	4438	B3	7307	A3	7874	C6
2261	C3	2393	B3	2812	A5	2866	A5	3317	B2	3389	B3	3503	A1	3833	B5	3883	A4	4820	C6	7331	A3	7876	C6
2265	B1	2401	A3	2813	A5	2867	A5	3318	A2	3390	B2	3504	A1	3834	B5	3886	A4	4823	A6	7332	B1	7891	A4
2301	A3	2402	A3	2816	A5	2868	A4	3321	A2	3391	A2	3506	A1	3836	B5	3887	A4	4825	A5	7337	B3	7892	B6
2304	B3	2403	A3	2821	A5	2869	A4	3322	A2	3401	A3	3508	A1	3837	B5	3888	A4	4827	B5	7368	A2	7893	B6
2306	B3	2404	A3	2823	A5	2871	A4	3327	B2	3402	A3	3804	B5	3838	B5	3889	A5	4828	B5	7385	A2	7894	B5
2311	B3	2405	A3	2824	A5	2872	A5	3333	A3	3404	A4	3805	A6	3852	B5	3890	A5	4829	B4	7386	A2		
2316	B2	2411	A2	2827	A5	2873	A5	3334	A3	3411	A3	3806	A6	3853	B5	3891	B4	4830	B4	7401	A3		
2317	A3	2412	A3	2828	B5	2874	A5	3336	A3	3412	A3	3807	A5	3854	B5	3893	B5	4831	A5	7403	B3		
2319	A3	2415	A2	2833	A5	2876	A5	3340	B3	3413	A2	3809	A5	3855	B5	3894	B6	4832	A4	7434	C5		
2322	C3	2431	A3	2834	A5	2877	B4	3346	A3	3414	A3	3810	A5	3862	C5	3895	B5	4833	B5	7435	C5		
2327	A2	2432	A3	2836	A4	2879	C6	3347	B3	3415	A3	3812	A5	3863	B5	3896	B6	5309	B3	7501	A1		



CL 16532043_096.eps
280601

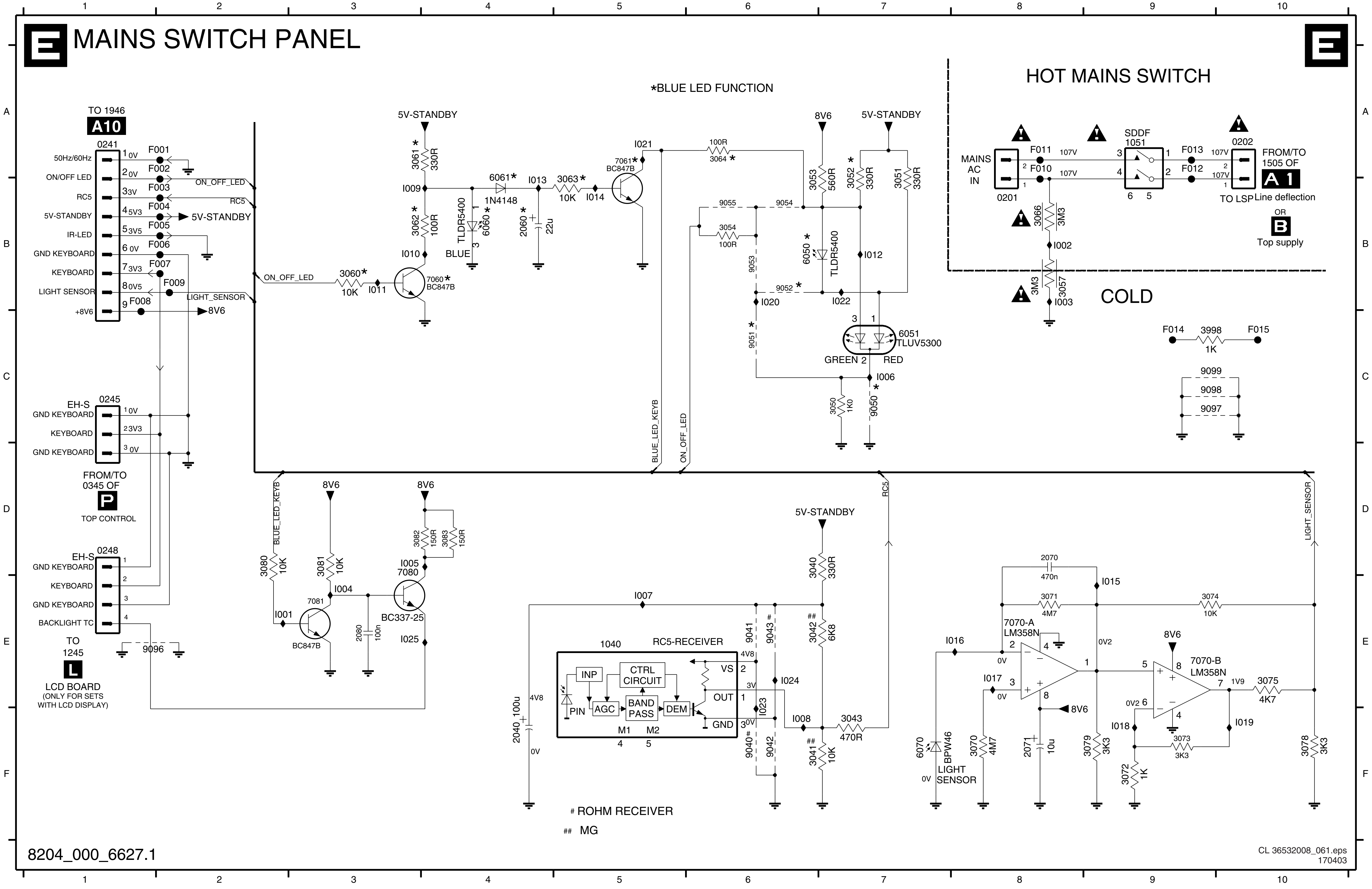
Layout Double Window Panel (Bottom View)

2262	C5	2338	A5	2814	A2	2848	B2	3267	B6	3328	A4	3382	A5	3501	A6	3844	A2	4305	B4	4826	A2	6301	B5
2269	C5	2342	A4	2817	A2	2849	B2	3268	B6	3329	B4	3383	A5	3507	A6	3846	A1	4313	A5	4834	C3	6412	A4
2302	B4	2345	A4	2818	B3	2852	B2	3270	C6	3330	B4	3403	A5	3509	A6	3847	A2	4314	B5	5261	B5	6415	A4
2303	B4	2354	A5	2819	A2	2854	B2	3302	A4	3335	B4	3405	A4	3510	A6	3848	A2	4315	B5	5348	B5	6436	C3
2309	B4	2356	A5	2822	B3	2856	A1	3305	B4	3338	A4	3417	B3	3512	A6	3849	A2	4401	A4	5349	B5	7305	B5
2312	B5	2357	A5	2825	B2	2878	B3	3311	B5	3339	A4	3418	B4	3513	A6	3851	A2	4402	A4	5816	A2	7402	B4
2313	B4	2372	A5	2826	B3	2882	B2	3312	B5	3341	A4	3419	C4	3801	A3	3856	C3	4419	C4	5818	A2	7411	A4
2314	B5	2374	B5	2829	B2	2883	B3	3313	A5	3344	A4	3422	C3	3802	B3	3857	C3	4423	B4	5827	B2	7412	A4
2321	A4	2375	A5	2831	B2	2891	A3	3314	A5	3350	A5	3423	C3	3803	B2	3858	C3	4424	C4	5834	A2	7421	C4
2324	A4	2376	A5	2832	A1	2895	A2	3315	A5	3351	A5	3424	C4	3808	A2	3870	B2	4434	C2	5839	B2	7422	C3
2332	A5	2377	A5	2837	B2	2896	A2	3323	A4	3365	A5	3434	C2	3811	A2	3876	B3	4437	C2	5848	B2	7438	C3
2334	A5	2501	A6	2839	B2	3263	B6	3324	A4	3370	A5	3436	C3	3823	A2	3884	A1	4821	B3	5849	B2	7502	A6
2335	A4	2511	A6	2846	A2	3264	B6	3325	A4	3371	B5	3437	C2	3839	A1	3885	A2	4822	B1	5851	B2	7828	A1
2336	A4	2512	A6	2847	B2	3265	B6	3326	B5	3381	A5	3439	C3	3843	A1	3892	A3	4824	A2	5853	B1	7895	C3



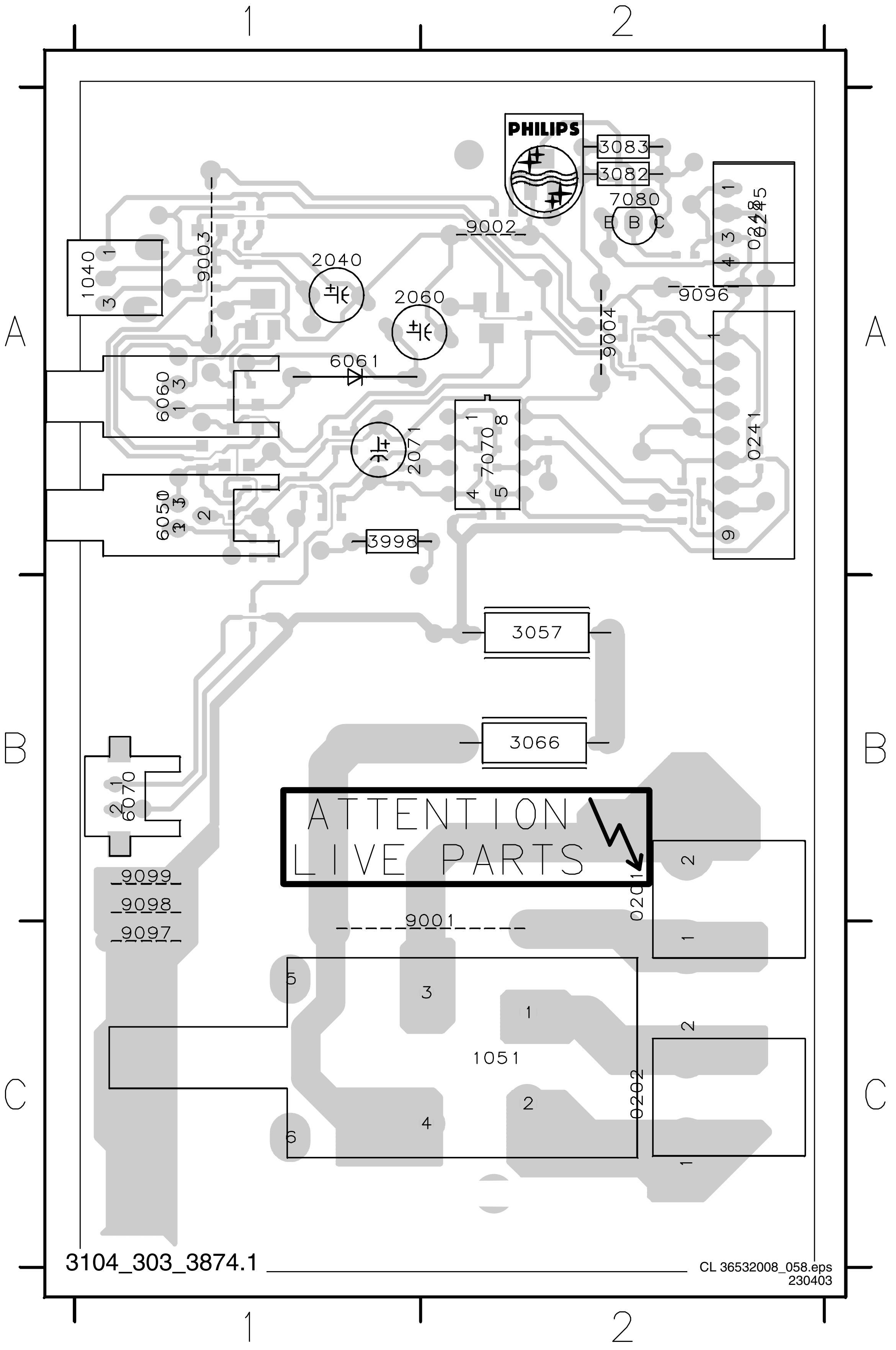
CL 16532043_095.eps
250601

Mains Switch Panel (FL11 Styling)


E
MAINS SWITCH PANEL
*BLUE LED FUNCTION
HOT MAINS SWITCH
COLD
TO 1946
A10
0241
50Hz/60Hz
ON/OFF LED
RC5
5V-STANDBY
IR-LED
GND KEYBOARD
KEYBOARD
LIGHT SENSOR
+8V6
F001
F002
F003
F004
F005
F006
F007
F008
F009
ON_OFF_LED
LIGHT_SENSOR
8V6
5V-STANDBY
3061 330R
3062 100R
3060 10K
3063 10K
6061 1N4148
6060 TLDR5400 BLUE
2060 22u
7060 BC847B
7061 BC847B
I009
I010
I011
I013
I014
I021
3064 100R
3054 100R
9055
9054
9053
9052
9051
9050
3053 560R
3052 330R
3051 330R
6050 TLDR5400
I012
I020
I022
6051 TLUV5300
GREEN
RED
I006
3050 1K0
BLUE_LED_KEYB
ON_OFF_LED
MAINS AC IN
0201
F011
F010
107V
SDDF 1051
F013
F012
0202
FROM/TO 1505 OF
A1
TO LSP
Line deflection
OR
B
Top supply
3066 3M3
3057 3M3
I002
I003
F014
3998 1K
F015
9099
9098
9097
EH-S 0245
EH-S 0248
FROM/TO 0345 OF
P
TOP CONTROL
BACKLIGHT TC
TO 1245
L
LCD BOARD
(ONLY FOR SETS WITH LCD DISPLAY)
9096
3080 10K
3081 10K
3082 150R
3083 150R
7081 BC847B
7080 BC337-25
2080 100n
I001
I004
I005
I025
I007
1040
RC5-RECEIVER
INP
CTRL CIRCUIT
AGC
BAND PASS
DEM
PIN
VS
OUT
GND
M1
M2
4V8
3V
0V
2040 100u
9041
9043
9040
9042
I023
I024
I008
3040 330R
3042 6K8
3041 10K
3043 470R
RC5
# ROHM RECEIVER
## MG
2070 470n
3071 4M7
3074 10K
7070-A LM358N
7070-B LM358N
I015
I016
I017
I018
I019
0V2
1V9
3075 4K7
6070 BPW46
LIGHT SENSOR
3070 4M7
2071 10u
3079 3K3
3072 1K
3073 3K3
3078 3K3
LIGHT_SENSOR
8204_000_6627.1
CL 36532008_061.eps
170403

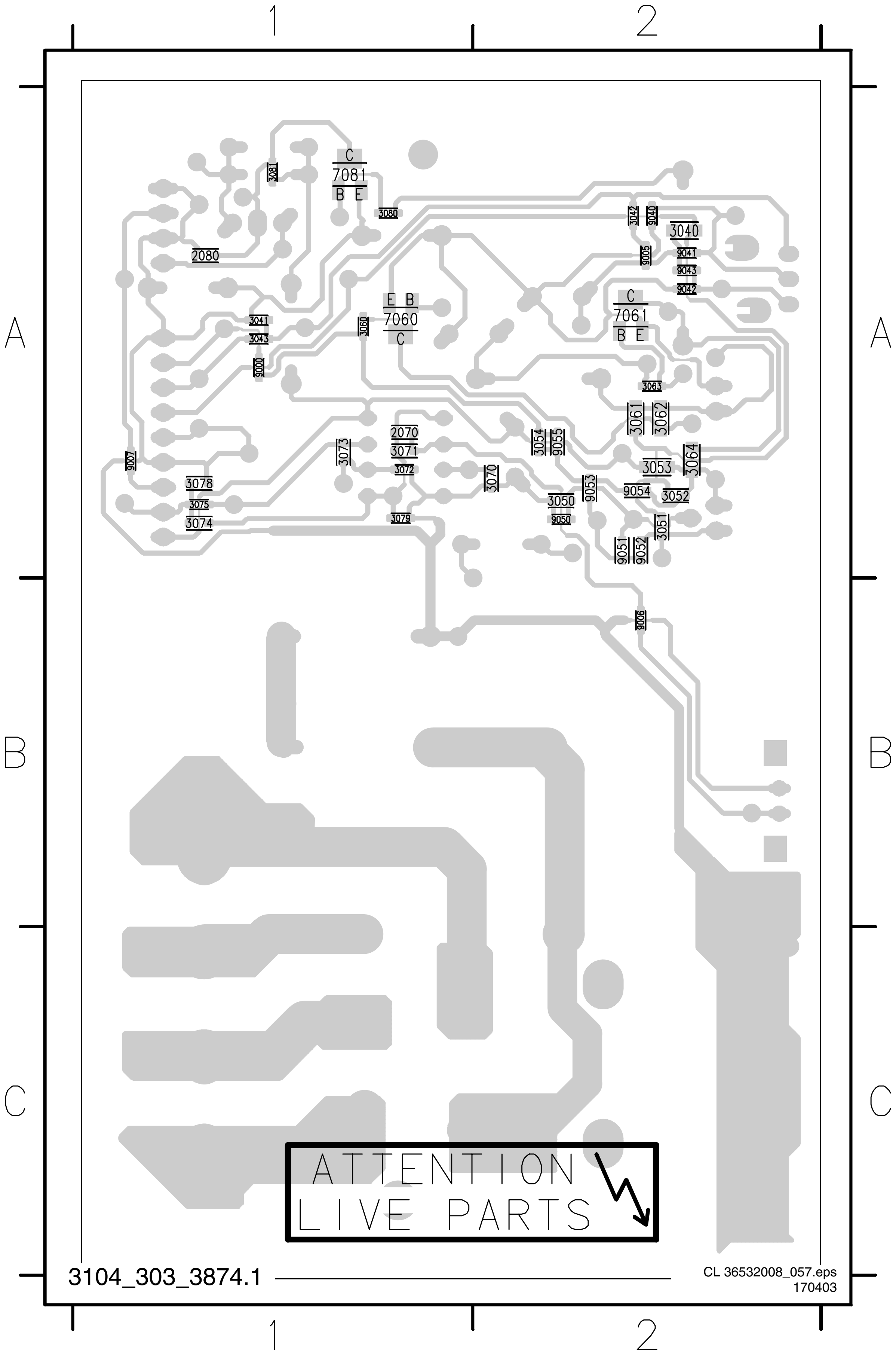
0201	B8
0202	A10
0241	A1
0245	C1
0248	D1
1040	E5
1051	A9
2040	F4
2060	B4
2070	D8
2071	F8
2080	E3
3040	D6
3041	F6
3042	E6
3043	F7
3050	C7
3051	B7
3052	B7
3053	B6
3054	B6
3057	B8
3060	B3
3061	A3
3062	B3
3063	B5
3064	A6
3066	B8
3070	F8
3071	E8
3072	F9
3073	F9
3074	E9
3075	E10
3078	F10
3079	F9
3080	D2
3081	D3
3082	D3
3083	D4
3998	C9
6050	B6
6051	C7
6060	B4
6061	B4
6070	F7
7060	B4
7061	A5
7070-A	E8
7070-B	E9
7080	E3
7081	E3
9040	F6
9041	E6
9042	F6
9043	E6
9050	C7
9051	C6
9052	B6
9053	B6
9054	B6
9055	B6
9096	E1
9097	C9
9098	C9
9099	C9
F001	A2
F002	A2
F003	B2
F004	B2
F005	B2
F006	B2
F007	B2
F008	B1
F009	B2
F010	A8
F011	A8
F012	A9
F013	A9
F014	C9
F015	C10
I001	E2
I002	B8
I003	B8
I004	E3
I005	D3
I006	C7
I007	E5
I008	F6
I009	B3
I010	B3
I011	B3
I012	B7
I013	B4
I014	B5
I015	E9
I016	E8
I017	E8
I018	F9
I019	F10
I020	B6
I021	A5
I022	B7
I023	E6
I024	E6
I025	E3

Layout Mains Switch Panel (FL11 Styling) (Top Side)


1
2
A
B
C
PHILIPS
3083
3082
7080
E B C
9002
1040
9003
2040
2060
9096
9004
0248
0245
0241
6061
6060
2071
7070
6050
3998
3057
3066
6070
ATTENTION
LIVE PARTS
9099
9098
9097
9001
0201
1051
0202
3104_303_3874.1
CL 36532008_058.eps
230403

0201	B2
0202	C2
0241	A2
0245	A2
0248	A2
1040	A1
1051	C2
2040	A1
2060	A1
2071	A1
3057	B2
3066	B2
3082	A2
3083	A2
3998	A1
6050	A1
6051	A1
6060	A1
6061	A1
6070	B1
7070	A2
7080	A2
9001	B2
9002	A2
9003	A1
9004	A2
9096	A2
9097	C1
9098	B1
9099	B1

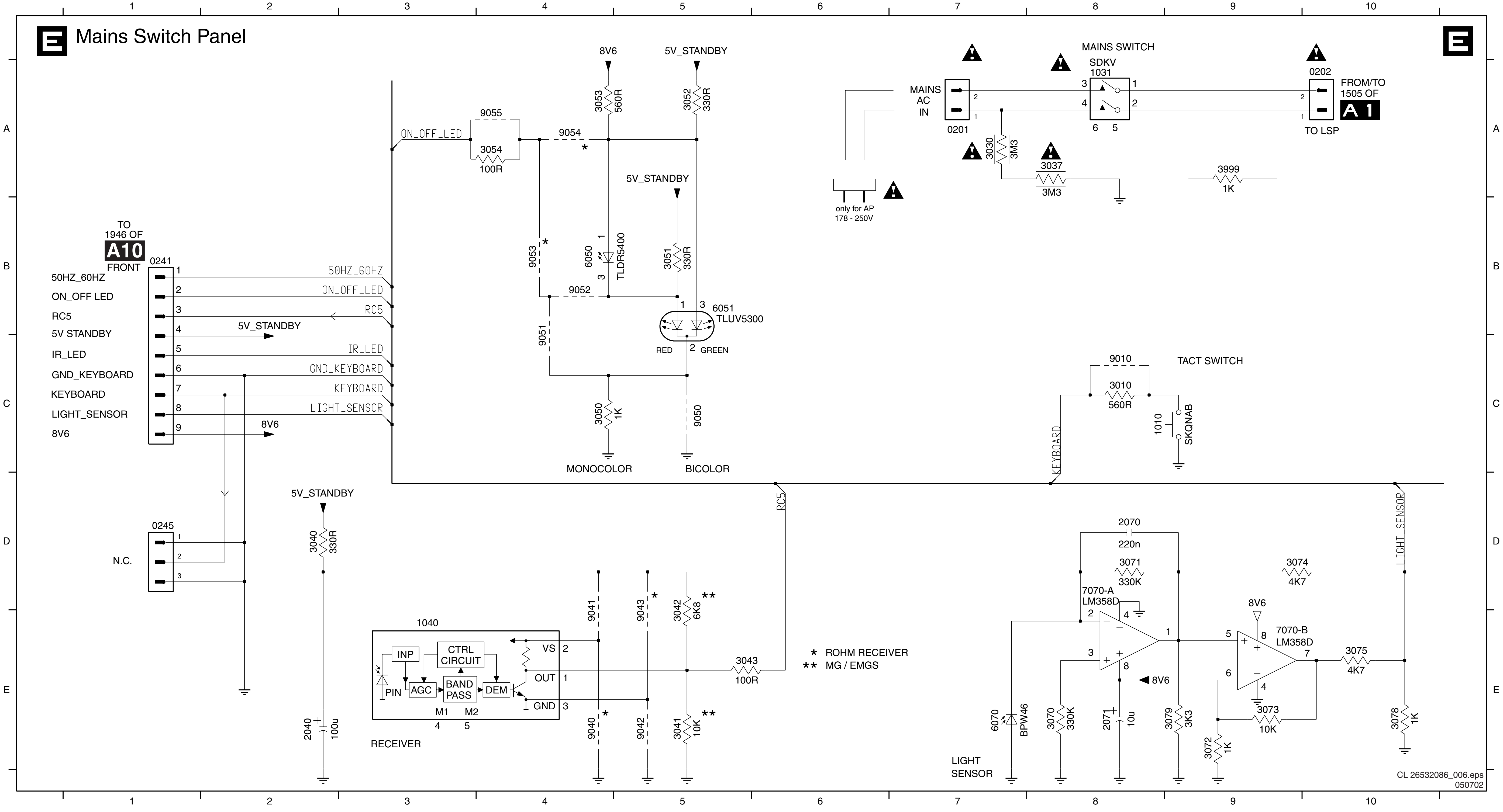
Layout Mains Switch Panel (FL11 Styling) (Bottom Side)


1
2
A
B
C
7081
C
B E
2080
3040
7060
E B
C
7061
C
B E
3061
3062
3064
3053
3052
9054
3051
9051
9052
2070
3071
3072
3073
3070
3054
9055
3050
9053
3078
3075
3074
3079
ATTENTION
LIVE PARTS
3104_303_3874.1
CL 36532008_057.eps
170403

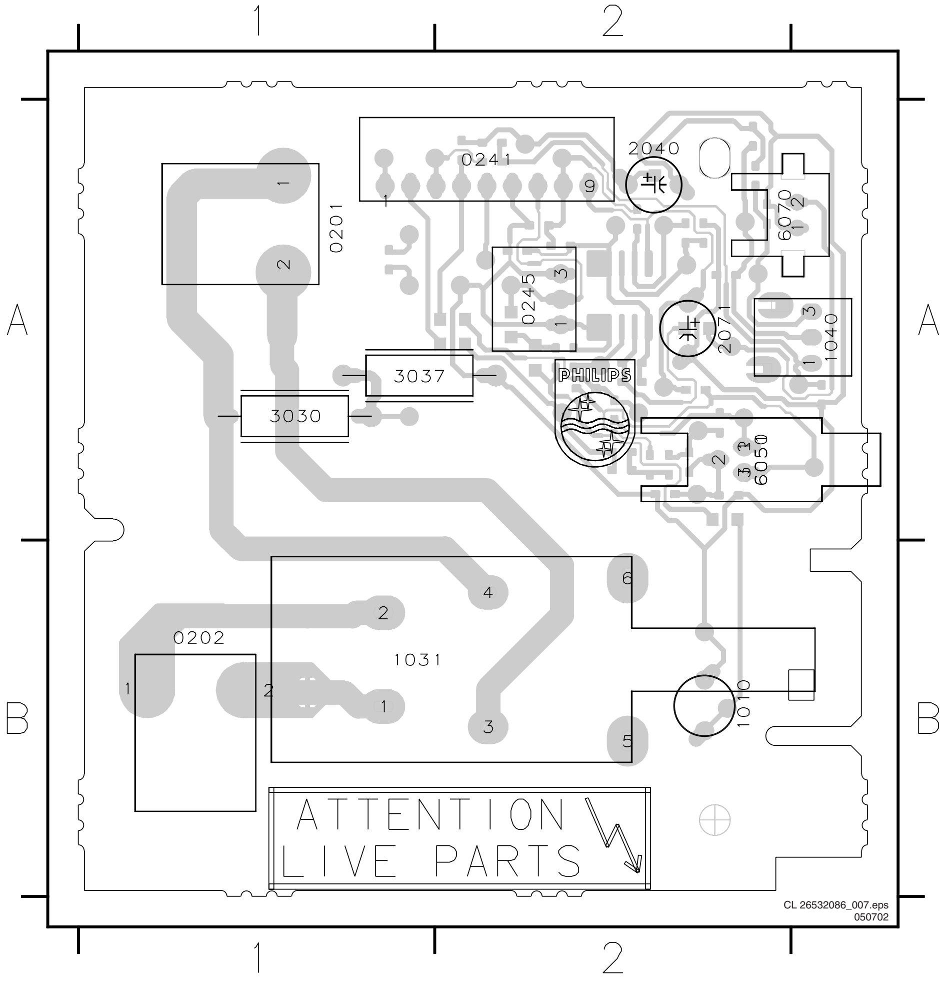
2070	A1
2080	A1
3040	A2
3041	A1
3042	A2
3043	A1
3050	A2
3051	A2
3052	A2
3053	A2
3054	A2
3060	A1
3061	A2
3062	A2
3063	A2
3064	A2
3070	A2
3071	A1
3072	A1
3073	A1
3074	A1
3075	A1
3078	A1
3079	A1
3080	A1
3081	A1
7060	A1
7061	A2
7081	A1
9000	A1
9005	A2
9006	B2
9007	A1
9040	A2
9041	A2
9042	A2
9043	A2
9050	A2
9051	A2
9052	A2
9053	A2
9054	A2
9055	A2

Main Switch Panel (PV2 Styling)

0201	A7
0202	A10
0241	B1
0245	D1
1010	C8
1031	A8
1040	E3
2040	E2
2070	D8
2071	E8
3010	C8
3030	A7
3037	A8
3040	D2
3041	E5
3042	E5
3043	E5
3050	C4
3051	B5
3052	A5
3053	A4
3054	A4
3070	E8
3071	D8
3072	E9
3073	E9
3074	D9
3075	E10
3078	E10
3079	E9
3999	A9
6050	B4
6051	B5
6070	E7
7070-A	D8
7070-B	E9
9010	C8
9040	E4
9041	E4
9042	E5
9043	E5
9050	C5
9051	C4
9052	B4
9053	B4
9054	A4
9055	A4


E
Mains Switch Panel
1 2 3 4 5 6 7 8 9 10
A B C D E
8V6
5V_STANDBY
3053 560R
3052 330R
9055
ON_OFF_LED
3054 100R
9054
5V_STANDBY
9053
6050 TLDR5400
3051 330R
9052
6051 TLUV5300
RED GREEN
9051
3050 1K
9050
MONOCOLOR
BICOLOR
TO 1946 OF
A10
FRONT
0241
50HZ_60HZ
ON_OFF LED
RC5
5V STANDBY
IR_LED
GND_KEYBOARD
KEYBOARD
LIGHT_SENSOR
8V6
50HZ_60HZ
ON_OFF_LED
RC5
5V_STANDBY
IR_LED
GND_KEYBOARD
KEYBOARD
LIGHT_SENSOR
8V6
0245
N.C.
MAINS AC IN
0201
only for AP 178 - 250V
MAINS SWITCH
SDKV 1031
3030 3M3
3037 3M3
3999 1K
0202
FROM/TO 1505 OF
A 1
TO LSP
9010
TACT SWITCH
3010 560R
1010 SKQNAB
KEYBOARD
RC5
LIGHT_SENSOR
5V_STANDBY
3040 330R
1040
INP
CTRL CIRCUIT
AGC
BAND PASS
DEM
PIN
VS
OUT
GND
M1 M2
RECEIVER
2040 100u
9041
9043
3042 6K8
9040
9042
3041 10K
3043 100R
* ROHM RECEIVER
** MG / EMGS
2070 220n
3071 330K
3074 4K7
7070-A LM358D
8V6
7070-B LM358D
3075 4K7
8V6
3073 10K
6070 BPW46
3070 330K
2071 10u
3079 3K3
3072 1K
3078 1K
LIGHT SENSOR
CL 26532086_006.eps 050702

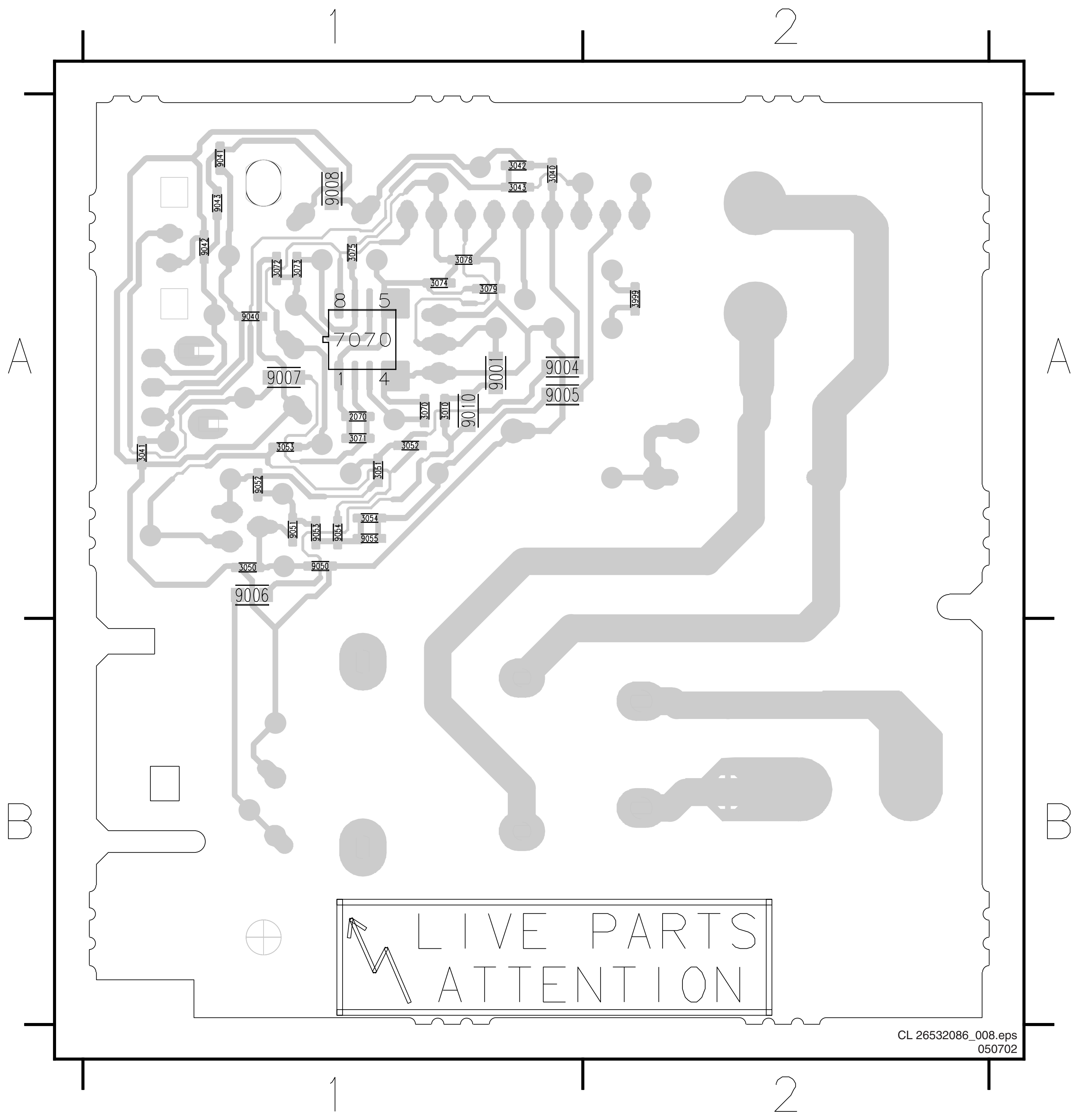
Layout Main Switch Panel (PV2 Styling) (Top Side)


1
2
A
B
0241
1
9
2040
6070
1
2
0201
1
2
0245
3
1
2071
1040
3
1
3037
3030
PHILIPS
6050
2
1
3
6
4
2
0202
1031
1
2
1
3
5
1010
ATTENTION
LIVE PARTS

CL 26532086_007.eps
050702

0201	A1
0202	B1
0241	A2
0245	A2
1010	B2
1031	B2
1040	A2
2040	A2
2071	A2
3030	A1
3037	A2
6050	A2
6051	A2
6070	A2

Layout Main Switch Panel (PV2 Styling) (Bottom Side)

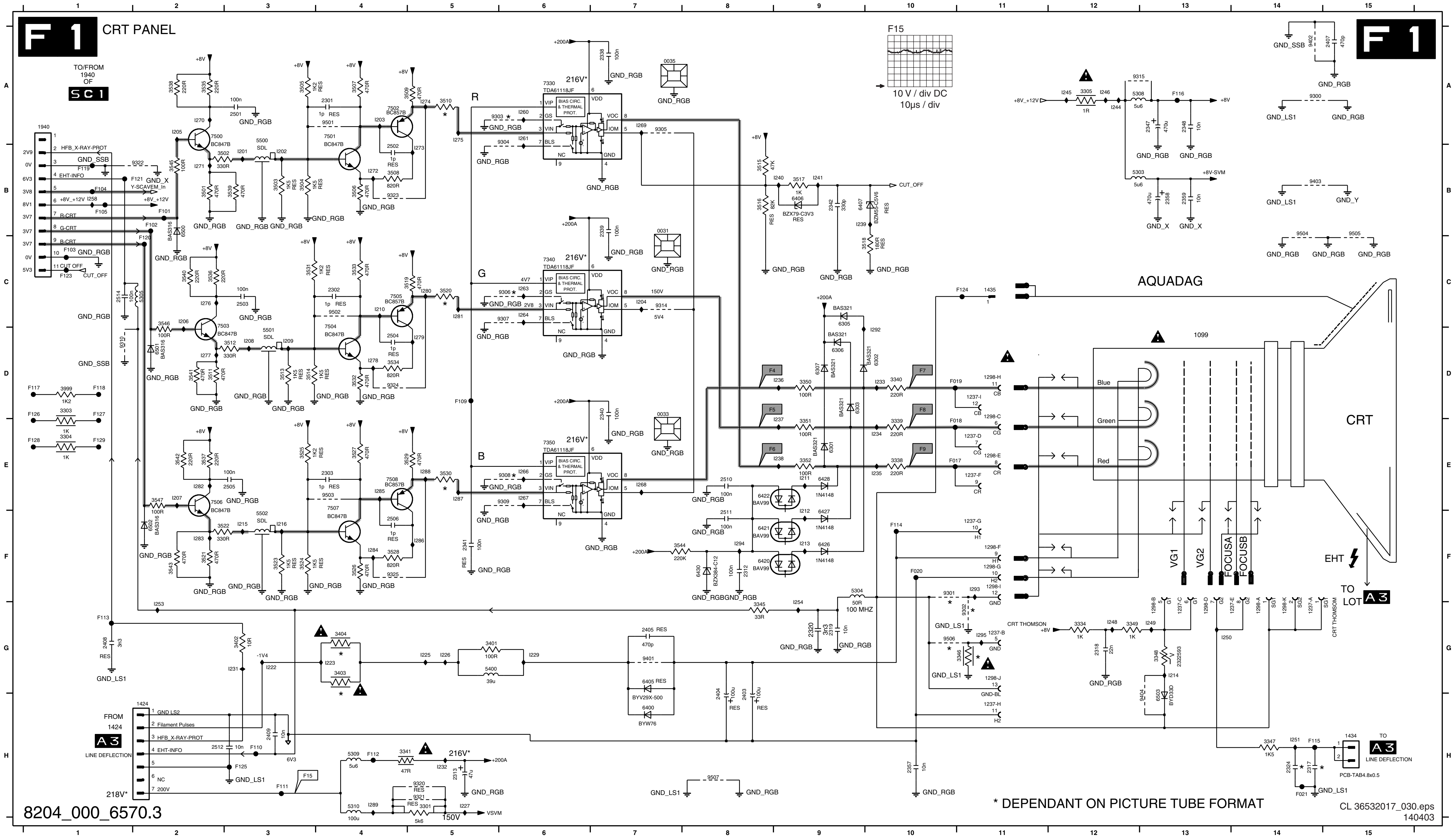

1
2
A
B
9041
9043
9042
9008
3042
3043
3040
3072
3073
3075
3078
3074
3079
3999
9040
8
5
7070
1
4
9007
9001
9004
9005
2070
3070
3010
9010
2071
3071
3053
3052
3051
3041
3052
9051
9053
9054
3054
9055
3050
9050
9006
LIVE PARTS
ATTENTION

CL 26532086_008.eps
050702

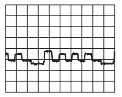
0201	A2
0202	B2
0241	A2
0245	A1
1010	B1
1031	B1
1040	A1
2040	A1
2070	A1
2071	A1
3010	A1
3030	A2
3037	A2
3040	A1
3041	A1
3042	A1
3043	A1
3050	A1
3051	A1
3052	A1
3053	A1
3054	A1
3070	A1
3071	A1
3072	A1
3073	A1
3074	A1
3075	A1
3078	A1
3079	A1
3999	A2
6050	A1
6051	A1
6070	A1
7070	A1
9001	A1
9004	A1
9005	A1
9006	A1
9007	A1
9008	A1
9010	A1
9040	A1
9041	A1
9042	A1
9043	A1
9050	A1
9051	A1
9052	A1
9053	A1
9054	A1
9055	A1

CRT Panel (FL11 Styling)

0031	B7
0033	D7
0035	A7
1237-A	F14
1237-B	G11
1237-C	F13
1237-D	E11
1237-E	F14
1237-F	E11
1237-G	F11
1237-H	H11
1237-I	D11
1298-A	F14
1298-B	F13
1298-C	D11
1298-D	F13
1298-E	E11
1298-F	F11
1298-G	F11
1298-H	D11
1298-I	F11
1298-J	G11
1298-K	F14
1424	H2
1434	H15
1435	C11
1940	A1
2301	A4
2302	C4
2303	E4
2312	F8
2313	H5
2317	H14
2318	G12
2319	G9
2320	G9
2324	H14
2338	A7
2339	B7
2340	D7
2341	F5
2342	B9
2347	A13
2348	A13
2357	H10
2358	B13
2359	B13
2403	H8
2404	H8
2405	G7
2407	A15
2408	G1
2409	H3
2501	A3
2502	B4
2503	C3
2504	D4
2505	E3
2506	F4
2510	E8
2511	F8
2512	H2
2514	C1
3301	H5
3303	D1
3304	E1
3305	A12
3334	G12
3338	E10
3339	E10
3340	D10
3341	H4
3345	G8
3346	G11
3347	H14
3348	G13
3349	G12
3350	D9
3351	E9
3352	E9
3401	G5
3402	G3
3403	G4
3404	G4
3501	B2
3502	B2
3503	B3
3504	B3
3505	A3
3506	B4
3507	A4
3508	B4
3509	A5
3510	A5
3511	D2
3512	D3
3513	D3
3514	D3
3515	B8
3516	B8
3517	B9
3518	C10
3519	C5
3520	C5
3521	F2
3522	F2
3523	F3
3524	F3
3525	E3
3526	F4
3527	E4
3528	F4
3529	E5
3530	E5
3531	C3
3532	D4
3533	C4
3534	D4
3535	A2
3536	C2
3537	E2
3538	A2
3539	B3
3540	C2
3541	D2
3542	E2
3543	F2
3544	F7
3545	B2
3546	C2
3547	E2
3999	D1
5303	B12
5304	F9
5305	C2
5308	A12
5309	H4
5310	H4
5400	G5
5500	A3
5501	D3
5502	F3
6301	E9
6302	D10
6303	D9
6305	C9
6306	D9
6307	D9
6400	H7
6405	G7
6406	B9
6407	B9
6420	F8
6421	F8
6422	E8
6426	F9
6427	F9
6428	E9
6430	F8
6500	B2
6501	D2
6502	F2
6503	H13
7330	A6
7340	C6
7350	E6
7500	A2
7501	A4
7502	A4
7503	D2
7504	D4
7505	C4
7506	E2
7507	E4
7508	E4
9300	A14
9301	F10
9302	G11
9303	A5
9304	A6
9305	A7
9306	C6
9307	C6
9308	E6
9309	E6
9310	D1
9314	C7
9315	A12
9320	H5
9321	H5
9322	B2
9323	B4
9324	D4
9325	F4
9401	G7
9402	A14
9403	B14
9404	H13
9501	A4
9502	C4
9503	E4
9504	B14
9505	B15
9506	G10
9507	H8
F017	E10
F018	E10
F019	D10
F020	F10
F021	H14
F101	B2
F102	B2
F103	C1
F104	B1
F105	B1
F109	D5
F110	H3
F111	H3
F112	H4
F113	G1
F114	F10
F115	H14
F116	A13
F117	D1
F118	D1
F119	B1
F120	C2
F121	B2
F123	C1
F124	C11
F125	H3
F126	D1
F127	D1
F128	E1
F129	E1
I201	B3
I202	B3
I203	A4
I204	C7
I205	A2
I206	C2
I207	E2
I208	D3
I209	D3
I210	C4
I211	E9
I212	F9
I213	F9
I214	G13
I215	F3
I216	F3
I222	G3
I223	G4
I225	G5
I226	G5
I227	H5
I229	G6
I231	G3
I232	H5
I233	D10
I234	E10
I235	E10
I236	D9
I237	E9
I238	E9
I239	B9
I240	B9
I241	B9
I244	A12
I245	A12
I246	A12
I248	G12
I249	G13
I250	G13
I251	H14
I253	G2
I254	G9
I258	B1
I260	A6
I261	A6
I263	C6
I264	C6
I266	E6
I267	E6
I268	E7
I269	A7
I270	A2
I271	B2
I272	B4
I273	B5
I274	A5
I275	A5
I276	C2
I277	D2
I278	D4
I279	D5
I280	C5
I281	C5
I282	E2
I283	F2
I284	F4
I285	E4
I286	F5
I287	E5
I288	E5
I289	H4
I290	D9
I291	D9
I292	D10
I293	F11
I294	F8
I295	G11

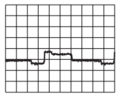

F1
CRT PANEL
TO/FROM
1940
OF
SC1
1940
HFB_X-RAY-PROT
GND_SSB
EHT-INFO
Y-SCAVEM_In
+8V_+12V
R-CRT
G-CRT
B-CRT
CUT_OFF
GND_RGB
GND_SSB
GND_LS1
R
G
B
7330
TDA6111JF
7340
TDA6111JF
7350
TDA6111JF
216V*
+200A
BIAS CIRC. & THERMAL PROT.
VIP
GS
VIN
BLS
VDD
VOC
IOM
NC
GND
BC847B
BC857B
SDL
F15
10 V / div DC
10μs / div
CUT_OFF
AQUADAG
CRT
1099
Blue
Green
Red
VG1
VG2
FOCUSA
FOCUSB
EHT
TO LOT
A3
CRT THOMSON
GND_X
GND_Y
+8V-SVM
BAV99
1N4148
BAS321
BZX79-C3V3
BZX84-C12
BZM55-C5V6
BYV29X-500
BYW76
100 MHZ
FROM
1424
LINE DEFLECTION
GND LS2
Filament Pulses
HFB_X-RAY-PROT
EHT-INFO
NC
200V
218V*
150V
VSVM
PCB-TAB4.8x0.5
* DEPENDANT ON PICTURE TUBE FORMAT
8204_000_6570.3
CL 36532017_030.eps
140403

F4



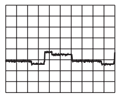
1 V / div DC
5μs / div

F5



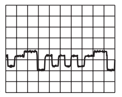
1 V / div DC
5μs / div

F6



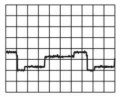
1 V / div DC
5μs / div

F7



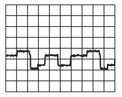
50 V / div DC
5μs / div

F8



50 V / div DC
5μs / div

F9

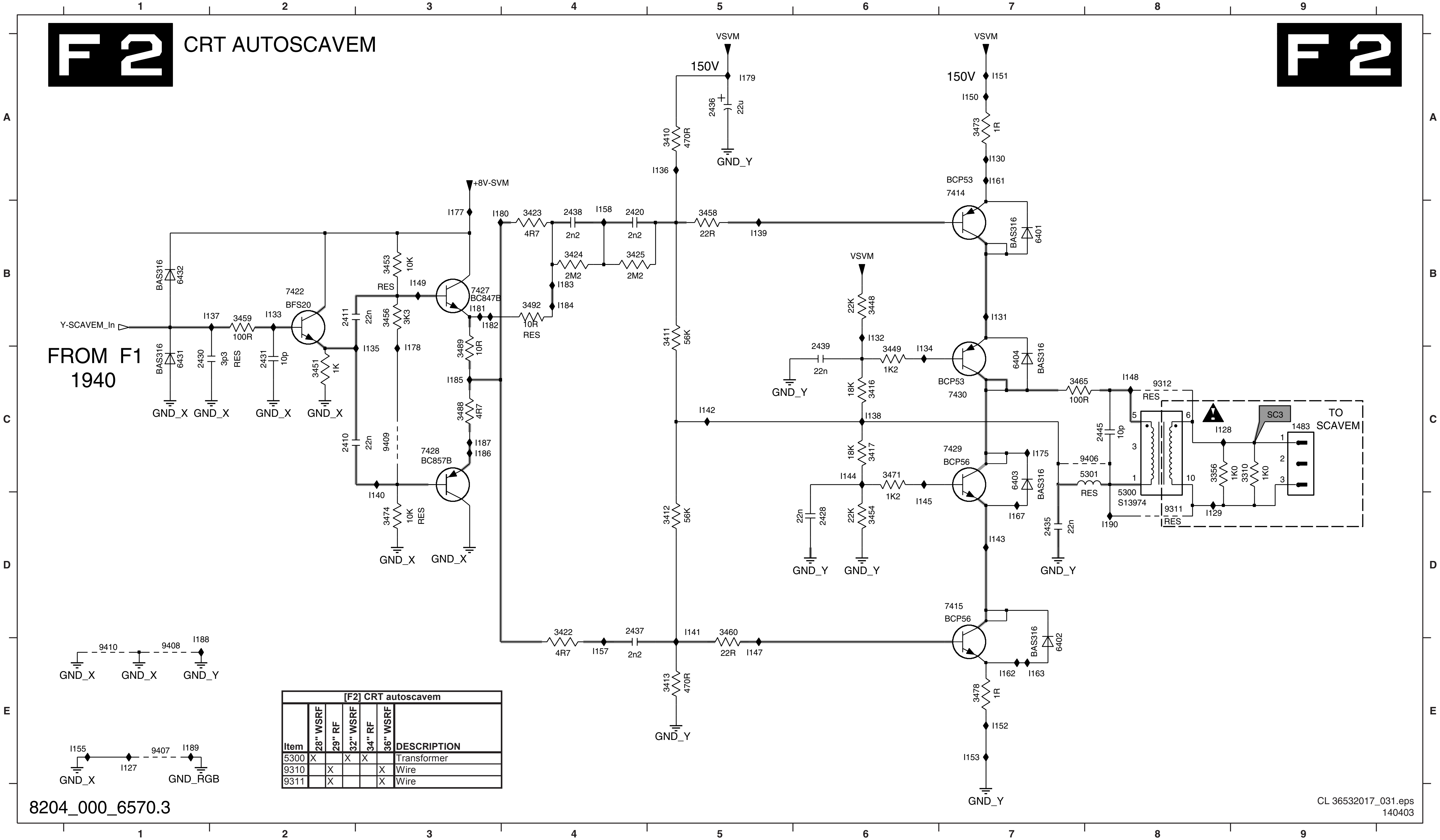


50 V / div DC
5μs / div

[F1] CRT panel						
Item	28" WSRF	29" RF	32" WSRF	34" RF	36" WSRF	DESCRIPTION
1237				X		CRT socket 9p female
1298	X	X			X	CRT socket 10p female
1298			X			CRT socket 11p female
2324	X					1N
2324			X			1N5
2324		X		X	X	4N7
2403		X		X	X	100U
2404		X		X	X	100U
2405		X		X	X	470P
3303				X		FUSE 1K
3304	X	X	X		X	FUSE 1K
3402	X		X		X	10R
3402		X		X		150R
3403		X			X	FUSE 1R
3403				X		FUSE 1R5
3403	X		X			FUSE 1R
3404		X			X	FUSE 1R
3404				X		FUSE 1R5
3510					X	100R
3510	X		X			150R
3510				X		220R
3510		X				560R
3520	X				X	150R
3520				X		220R
3520			X			390R
3520		X				560R
3530	X					150R
3530				X		220R
3530					X	270R
3530			X			390R
3530		X				560R
3999				X		1K5
3999	X					1K8
3999		X				2K2
3999					X	2K7
3999			X			3K9
5400	X		X			33U
5400				X		18U
5400		X				27U
5400					X	39U
6405		X		X	X	BYV29X-500
9301	X	X		X	X	Jumper
9302			X			Jumper
9303	X	X	X		X	Jumper
9306	X	X	X		X	Jumper
9308	X	X	X		X	Jumper
9401	X		X			Jumper

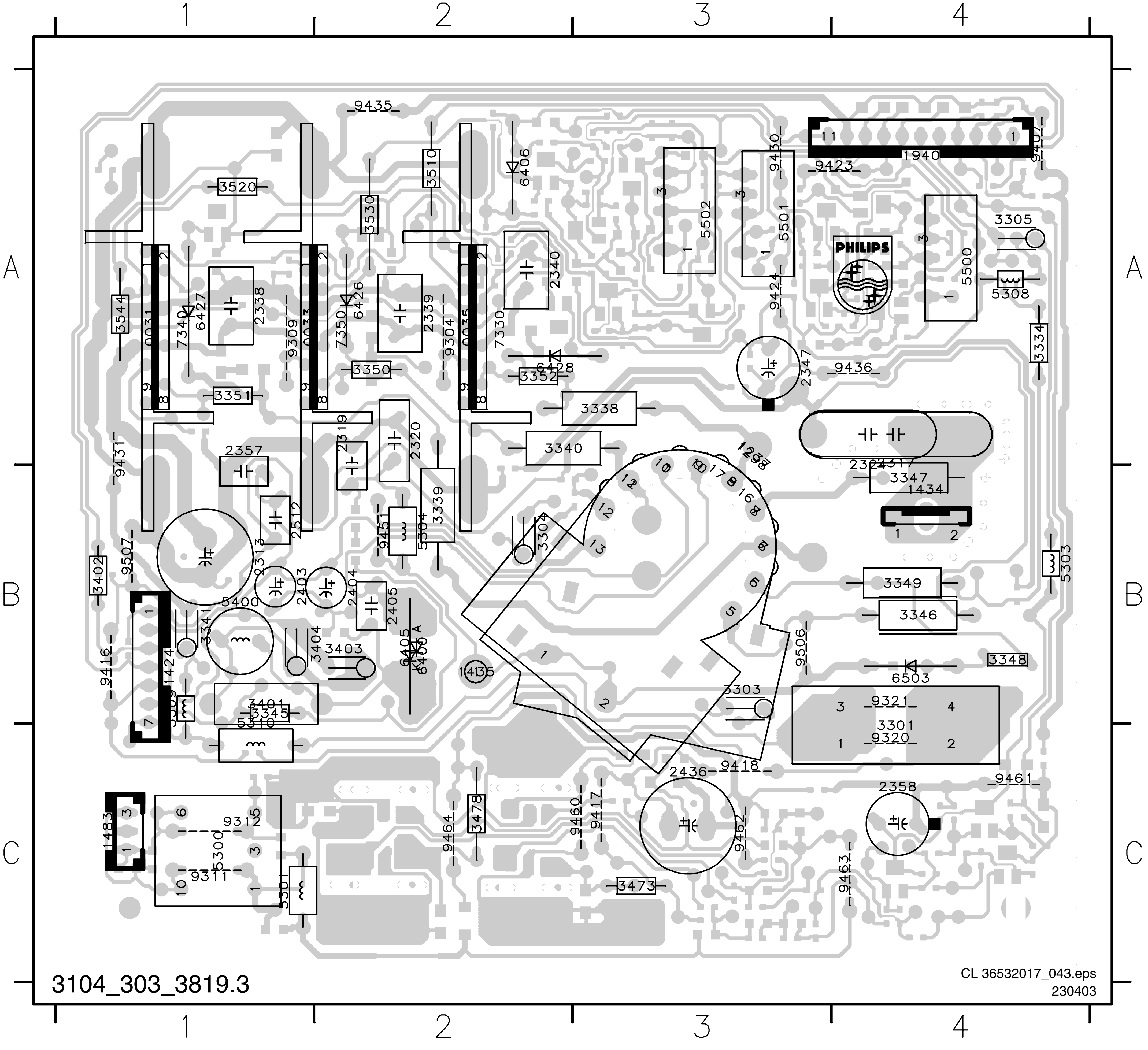
CRT/ Auto SCAVEM Panel (FL11 Styling)

1483 C9
2410 C2
2411 B2
2420 B4
2428 D6
2430 C1
2431 C2
2435 D7
2436 A5
2437 D4
2438 B4
2439 B6
2445 C8
3310 C9
3356 C8
3410 A5
3411 B5
3412 D5
3413 E5
3416 C6
3417 C6
3422 D4
3423 B4
3424 B4
3425 B4
3448 B6
3449 C6
3451 C2
3453 B3
3454 D6
3456 B3
3458 B5
3459 B2
3460 D5
3465 C7
3471 C6
3473 A7
3474 D3
3478 E7
3488 C3
3489 C3
3492 B4
5300 D8
5301 C8
6401 B7
6402 E7
6403 C7
6404 C7
6431 C1
6432 B1
7414 A7
7415 D7
7422 B2
7427 B3
7428 C3
7429 C7
7430 C7
9311 D8
9312 C8
9406 C8
9407 E1
9408 E1
9409 C3
9410 E1
I127 E1
I128 C8
I129 D8
I130 A7
I131 B7
I132 B6
I133 B2
I134 C6
I135 C3
I136 A5
I137 B1
I138 C6
I139 B5
I140 D3
I141 D5
I142 C5
I143 D7
I144 C6
I145 D6
I147 E5
I148 C8
I149 B3
I150 A7
I151 A7
I152 E7
I153 E7
I155 E1
I157 E4
I158 B4
I161 A7
I162 E7
I163 E7
I167 D7
I175 C7
I177 B3
I178 C3
I179 A5
I180 B3
I181 B3
I182 B3
I183 B4
I184 B4
I185 C3
I186 C3
I187 C3
I188 D1
I189 E1
I190 D8


F 2
CRT AUTOSCAVEM
F 2
1 2 3 4 5 6 7 8 9
A B C D E
FROM F1
1940
Y-SCAVEM_In
TO
SCAVEM
VSVM
150V
+8V-SVM
GND_X
GND_Y
GND_RGB
I179
2436
22u
3410
470R
I136
3423
4R7
2438
2n2
I158
2420
2n2
3458
22R
I139
3424
2M2
3425
2M2
I183
3492
10R
RES
I184
I180
I177
7427
BC847B
I149
I181
I182
3453
10K
RES
3456
3K3
I178
2411
22n
I135
7422
BFS20
I137
3459
100R
I133
BAS316
6432
6431
2430
3p3
RES
2431
10p
3451
1K
3489
10R
I185
3488
4R7
I187
I186
7428
BC857B
2410
22n
9409
I140
3474
10K
RES
3411
56K
3412
56K
I142
3422
4R7
I157
2437
2n2
I141
3460
22R
I147
3413
470R
I151
I150
3473
1R
I130
BCP53
7414
I161
6401
BAS316
I131
7430
BCP53
I134
3449
1K2
I132
3448
22K
2439
22n
3416
18K
I138
6404
3417
18K
I144
3471
1K2
I145
7429
BCP56
I175
6403
I167
I143
2428
22n
3454
22K
7415
BCP56
6402
I162
I163
3478
1R
I152
I153
3465
100R
I148
9312
RES
2445
10p
9406
5301
RES
5300
S13974
2435
22n
I190
9311
RES
I128
I129
3356
1K0
3310
1K0
SC3
1483
1 2 3
5 6 3 1 10
9410
9408
I188
I155
I127
9407
I189
8204_000_6570.3
CL 36532017_031.eps
140403

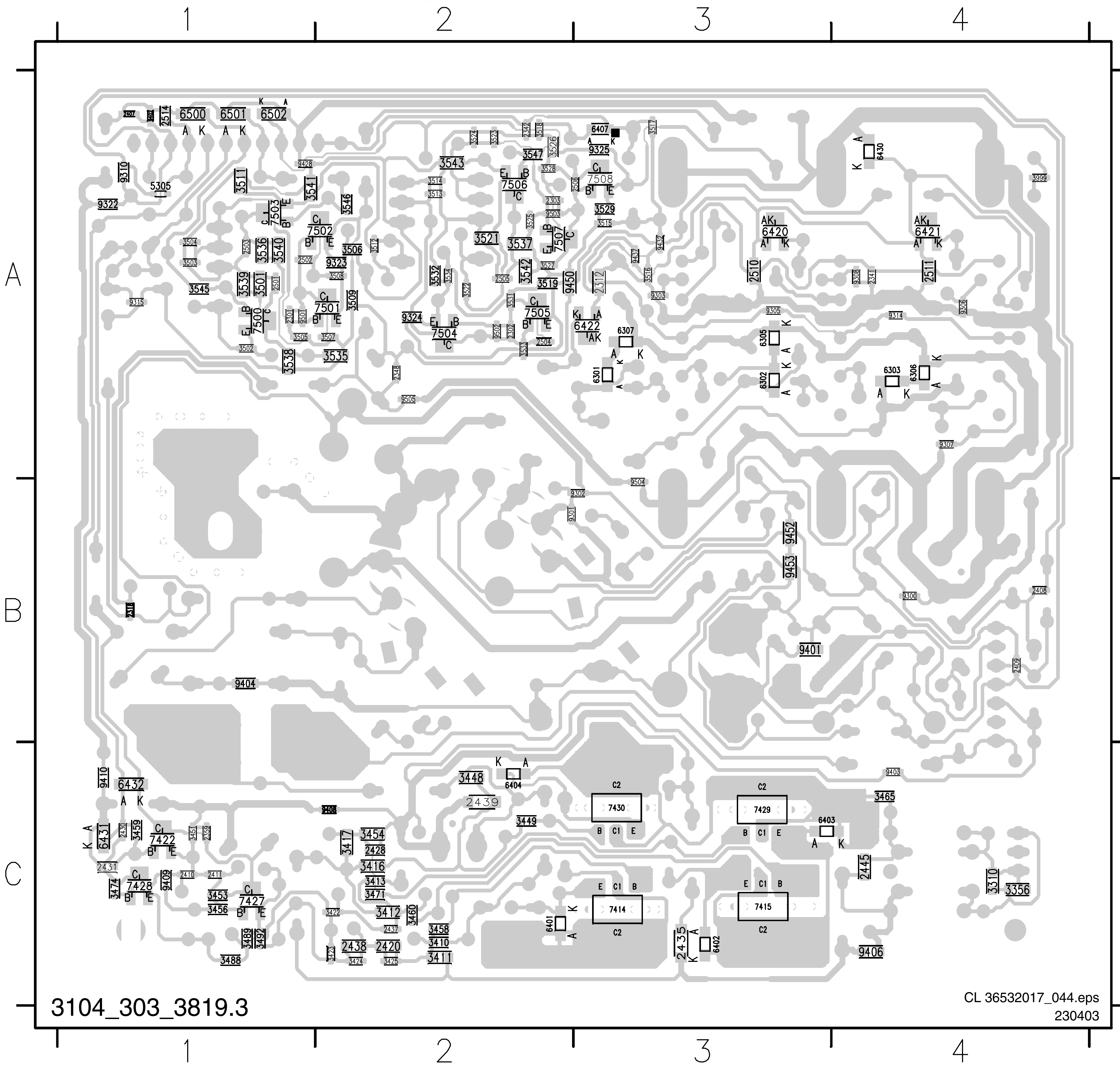
[F2] CRT autoscavem						
Item	28" WSRF	29" RF	32" WSRF	34" RF	36" WSRF	DESCRIPTION
5300	X		X	X		Transformer
9310		X			X	Wire
9311		X			X	Wire

Layout CRT / Auto SCAVEM Panel (FL11 Styling) (Top Side)



0031	A1
0033	A1
0035	A2
1237	A3
1298	C3
1424	B1
1434	B4
1435	B2
1483	C1
1940	A4
2313	B1
2317	A4
2319	B2
2320	A2
2324	A4
2338	A1
2339	A2
2340	A2
2347	A3
2357	A1
2358	C4
2403	B1
2404	B2
2405	B2
2436	C3
2512	B1
3301	C4
3303	C3
3304	B2
3305	A4
3334	A4
3338	A3
3339	B2
3340	B2
3341	B1
3345	B1
3346	B4
3347	B4
3348	B4
3349	B4
3350	A2
3351	A1
3352	A2
3401	B2
3402	B1
3403	B2
3404	B1
3473	C3
3478	C2
3510	A2
3520	A1
3530	A2
3544	A1
5300	C1
5301	C2
5303	B4
5304	B2
5308	A4
5309	C1
5310	C1
5400	B1
5500	A4
5501	A3
5502	A3
6400	B2
6405	B2
6406	A2
6426	A2
6427	A1
6428	A2
6503	B4
7330	A2
7340	A1
7350	A2
9304	A2
9309	A1
9311	C1
9312	C1
9320	C4
9321	B4
9407	A4
9416	B1
9417	C3
9418	C3
9423	A4
9424	A3
9430	A3
9431	A1
9435	A2
9436	A4
9451	B2
9460	C2
9461	C4
9462	C3
9463	C4
9464	C2
9506	B3
9507	B1

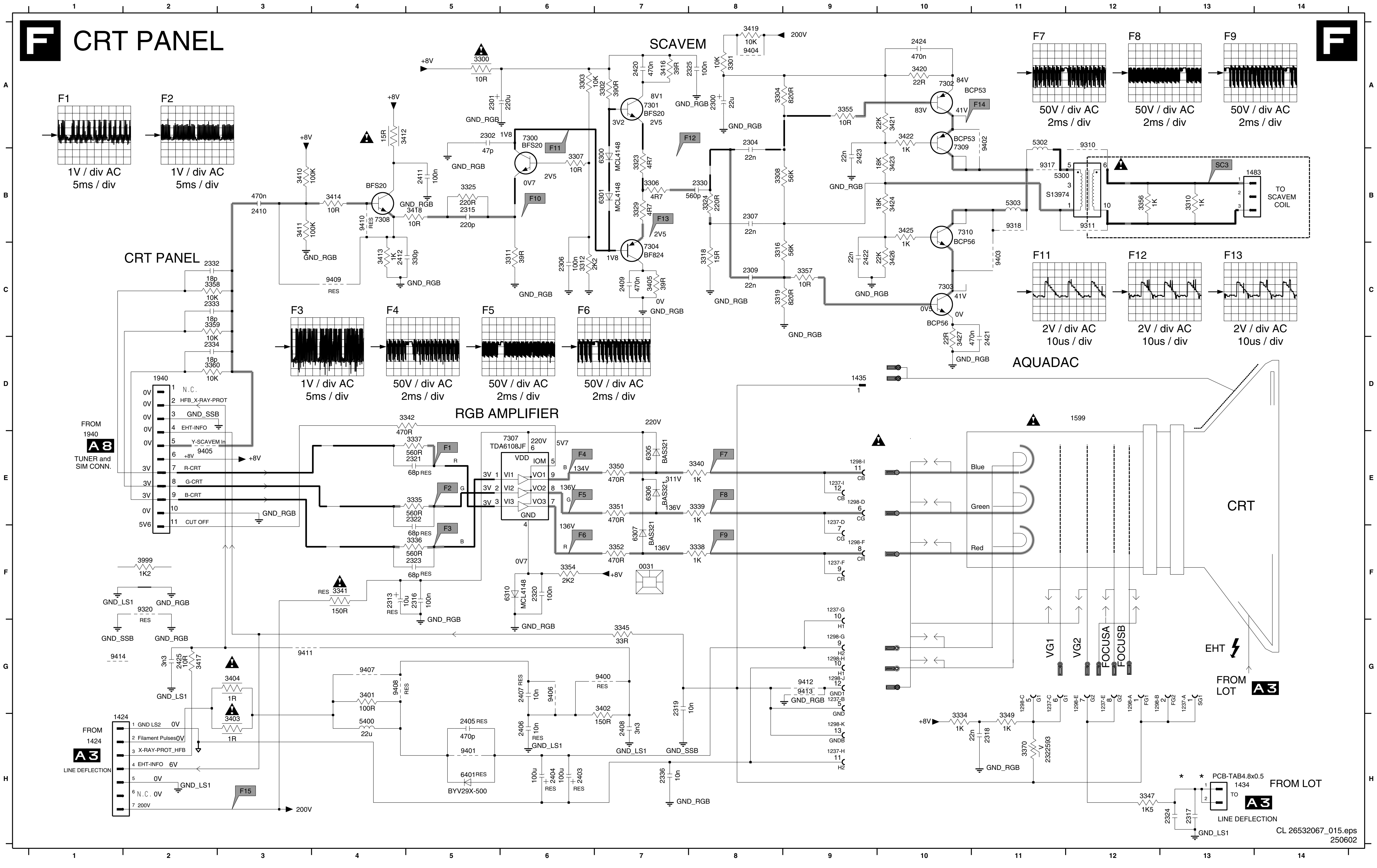
Layout CRT / Auto SCAVEM Panel (FL11 Styling) (Bottom Side)



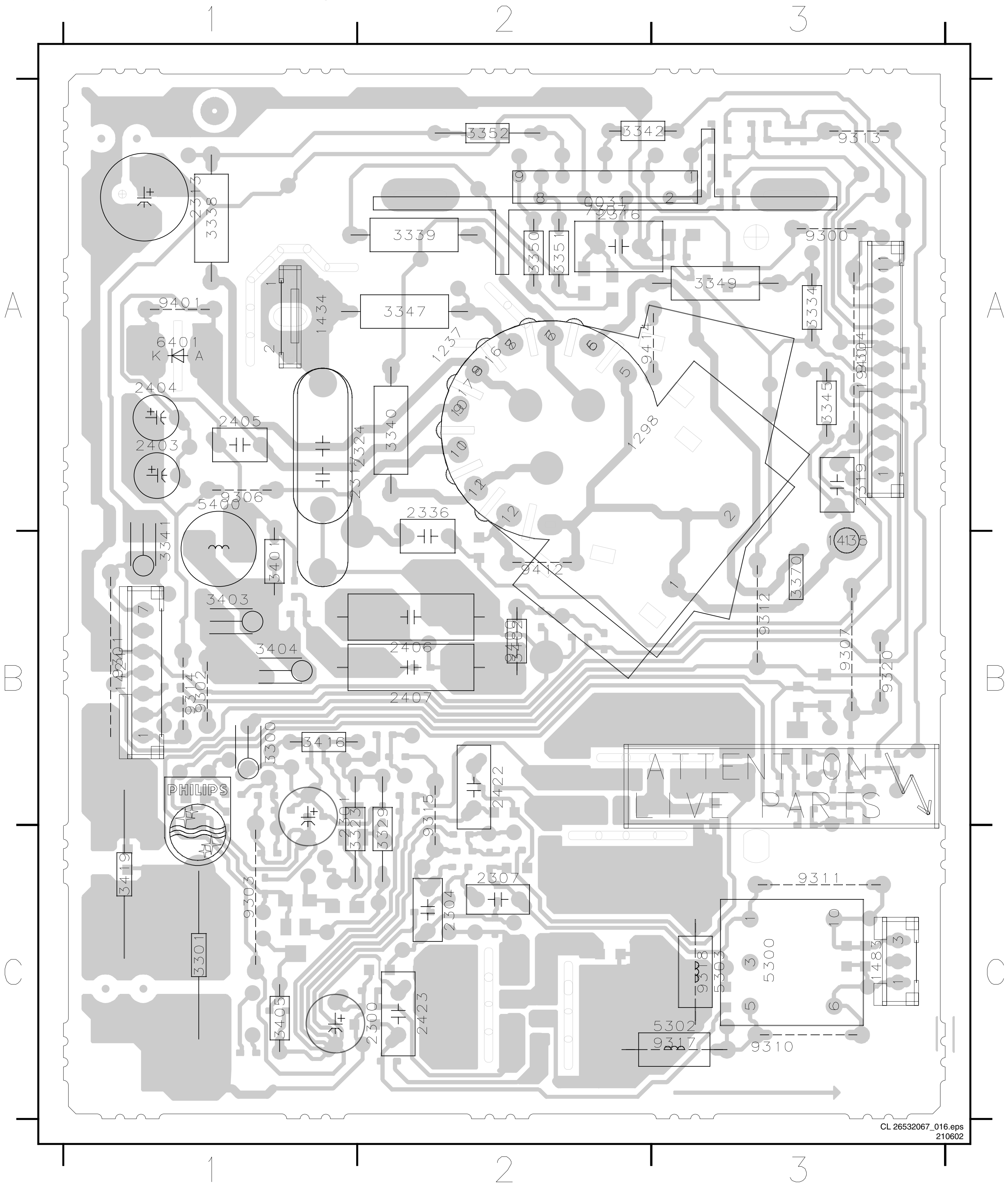
2301	A1	3501	A1	6430	A4
2302	A2	3502	A1	6431	C1
2303	A2	3503	A1	6432	C1
2312	A3	3504	A1	6500	A1
2318	B1	3505	A1	6501	A1
2341	A4	3506	A2	6502	A1
2342	A2	3507	A2	7414	C3
2348	A2	3508	A2	7415	C3
2359	C1	3509	A2	7422	C1
2407	A1	3511	A1	7427	C1
2408	B4	3512	A2	7428	C1
2409	B4	3513	A2	7429	C3
2410	C1	3514	A2	7430	C2
2411	C1	3515	A3	7500	A1
2420	C2	3516	A3	7501	A2
2428	C2	3517	A3	7502	A1
2430	C1	3518	A2	7503	A1
2431	C1	3519	A2	7504	A2
2435	C3	3521	A2	7505	A2
2437	C2	3522	A2	7506	A2
2438	C2	3523	A2	7507	A3
2439	C2	3524	A2	7508	A3
2445	C4	3525	A2	9300	B4
2501	A1	3526	A2	9301	B2
2502	A1	3527	A2	9302	B3
2503	A1	3528	A2	9303	A3
2504	A2	3529	A3	9305	A3
2505	A2	3531	A2	9306	A4
2506	A3	3532	A2	9307	A4
2510	A3	3533	A2	9308	A4
2511	A4	3534	A2	9310	A1
2514	A1	3535	A2	9314	A4
3310	C4	3536	A1	9315	A1
3356	C4	3537	A2	9322	A1
3410	C2	3538	A1	9323	A2
3411	C2	3539	A1	9324	A2
3412	C2	3540	A1	9325	A3
3413	C2	3541	A1	9401	B3
3416	C2	3542	A2	9402	A1
3417	C2	3543	A2	9403	C4
3422	C2	3545	A1	9404	B1
3423	C2	3546	A2	9406	C4
3424	C2	3547	A2	9408	C2
3425	C2	3999	A4	9409	C1
3448	C2	5305	A1	9410	C1
3449	C2	6301	A3	9428	A1
3451	C1	6302	A3	9432	A3
3453	C1	6303	A4	9437	A3
3454	C2	6305	A3	9450	A2
3456	C1	6306	A4	9452	B3
3458	C2	6307	A3	9453	B3
3459	C1	6401	C2	9501	A1
3460	C2	6402	C3	9502	A2
3465	C4	6403	C4	9503	A2
3471	C2	6404	C2	9504	B3
3474	C1	6407	A3	9505	A2
3488	C1	6420	A3		
3489	C1	6421	A4		
3492	C1	6422	A2		

CRT Panel (PV2 Styling)

0031	F7
1237-A	G13
1237-B	G9
1237-C	G11
1237-D	E9
1237-E	G12
1237-F	F9
1237-G	F9
1237-H	H9
1237-I	E9
1298-A	G12
1298-B	G12
1298-C	G11
1298-D	E9
1298-E	G12
1298-F	F9
1298-G	G9
1298-H	G9
1298-I	E9
1298-J	G9
1298-K	H9
1424	H2
1434	H13
1435	D9
1483	B13
1940	D2
2300	A8
2301	A5
2302	A5
2304	A8
2306	C6
2307	B8
2309	C8
2313	F4
2315	B5
2316	F5
2317	H13
2318	H11
2319	G7
2320	F6
2321	E5
2322	E5
2323	F5
2324	H13
2325	A8
2330	B8
2332	C2
2333	C2
2334	D2
2336	H7
2403	H6
2404	H6
2405	H5
2406	H6
2407	G6
2408	H7
2409	C7
2410	B3
2411	B5
2412	C4
2420	A7
2421	D11
2422	C9
2423	B9
2424	A10
2425	G2
3300	A5
3301	A8
3302	A7
3303	A6
3304	A8
3306	B7
3307	B6
3308	B8
3310	B13
3311	C6
3312	C6
3316	C8
3318	C8
3319	C8
3323	B7
3324	B8
3325	B5
3329	B7
3334	H10
3335	E5
3336	F5
3337	E5
3338	F8
3339	E8
3340	E8
3341	F4
3342	D5
3345	G7
3347	H12
3349	H11
3350	E7
3351	E7
3352	F7
3354	F6
3355	A9
3356	B12
3357	C9
3358	C2
3359	C2
3360	D2
3370	H11
3401	G4
3402	G7
3403	H3
3404	G3
3405	C7
3410	B3
3411	B3
3412	A4
3413	C4
3414	B4
3416	A7
3417	G2
3418	B5
3419	A8
3420	A10
3421	A10
3422	A10
3423	B10
3424	B10
3425	B10
3426	C10
3427	D10
3999	F2
5300	B11
5302	A11
5303	B11
5400	H4
6300	B7
6301	B7
6305	E7
6306	E7
6307	F7
6310	F6
6401	H5
7300	A6
7301	A7
7302	A10
7303	C10
7304	C7
7307	E6
7308	B4
7309	A10
7310	B10
9310	A12
9311	B12
9317	B11
9318	B11
9320	F2
9400	G7
9401	H5
9402	A11
9403	C11
9404	A8
9405	E2
9406	G6
9407	G4
9408	G4
9409	C4
9410	B4
9411	G3
9412	G9
9413	G9
9414	G1
9415	G1

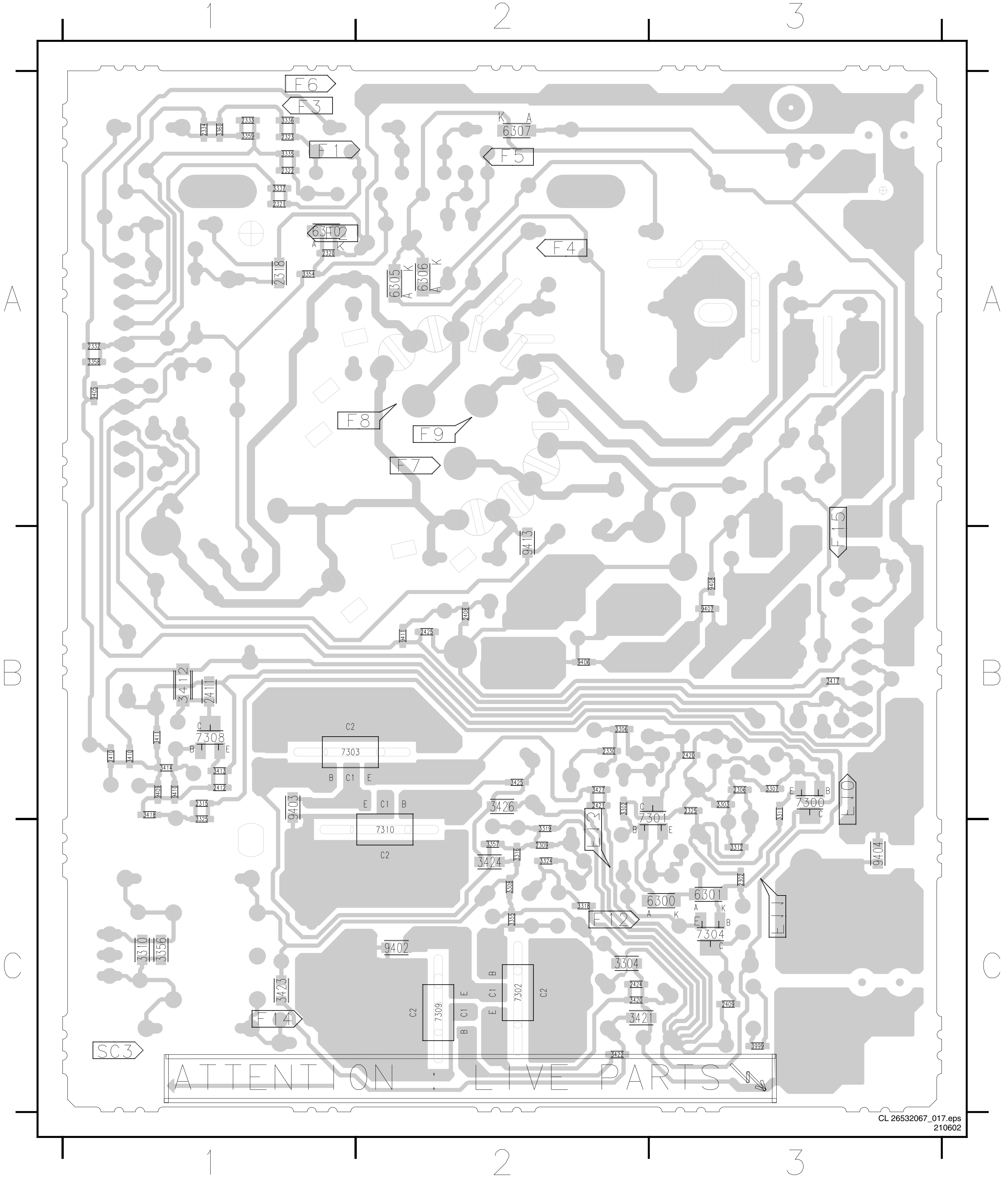

F
CRT PANEL
SCAVEM
F1
1V / div AC
5ms / div
F2
1V / div AC
5ms / div
F3
1V / div AC
5ms / div
F4
50V / div AC
2ms / div
F5
50V / div AC
2ms / div
F6
50V / div AC
2ms / div
F7
50V / div AC
2ms / div
F8
50V / div AC
2ms / div
F9
50V / div AC
2ms / div
F11
2V / div AC
10us / div
F12
2V / div AC
10us / div
F13
2V / div AC
10us / div
RGB AMPLIFIER
7307
TDA6108JF
AQUADAC
CRT
TO SCAVEM COIL
FROM 1940
A8
TUNER and SIM CONN.
FROM 1424
A8
LINE DEFLECTION
FROM LOT
A3
LINE DEFLECTION
1940
N.C.
HFB_X-RAY-PROT
GND_SSB
EHT-INFO
Y-SCAVEM In
+8V
R-CRT
G-CRT
B-CRT
CUT OFF
1424
GND LS2
Filament Pulses
X-RAY-PROT_HFB
EHT-INFO
N.C.
200V
Blue
Green
Red
VG1
VG2
FOCUSA
FOCUSB
EHT
PCB-TAB4.8x0.5
1434
1483
1599
1435
+8V
200V
GND_RGB
GND_SSB
GND_LS1
BYV29X-500
S13974
CL 26532067_015.eps
250602

Layout CRT Panel (PV2 Styling) (Top Side)


1
2
3
A
B
C
3352
3342
9313
0031
7307
2316
3338
2313
3339
3350
3351
9300
3349
9401
1434
3347
3334
6401
K
A
1237
9414
1940
2404
2405
3340
1298
3345
2403
2324
2317
2319
9306
5400
2336
1435
3341
3401
9412
3370
3403
9312
3404
2406
9400
3402
9307
9320
1424
9314
9302
2407
9301
3416
3300
2422
ATTENTION
LIVE PARTS
PHILIPS
2301
3323
3329
9315
3419
2307
9311
9303
2304
3301
5300
1483
9318
5303
3405
2300
2423
5302
9317
9310
CL 26532067_016.eps
210602

0031	A2
1237	A2
1298	A2
1424	B1
1434	A1
1435	A3
1483	C3
1940	A3
2300	C1
2301	B1
2304	C2
2307	C2
2313	A1
2316	A2
2317	B2
2319	A3
2324	A2
2336	A2
2403	A1
2404	A1
2405	A1
2406	B2
2407	B2
2422	B2
2423	C2
3300	B1
3301	C1
3323	C1
3329	C2
3334	A3
3338	A1
3339	A2
3340	A2
3341	A1
3342	A2
3345	A3
3347	A2
3349	A3
3350	A2
3351	A2
3352	A2
3370	B3
3401	B1
3402	B2
3403	B1
3404	B1
3405	C1
3416	B1
3419	C1
5300	C3
5302	C3
5303	C3
5400	A1
6401	A1
7307	A2
9300	A3
9301	B1
9302	B1
9303	C1
9304	A3
9306	A1
9307	B3
9310	C3
9311	C3
9312	B3
9313	A3
9314	B1
9315	B2
9317	C3
9318	C3
9320	B3
9400	B2
9401	A1
9412	B2
9414	A2

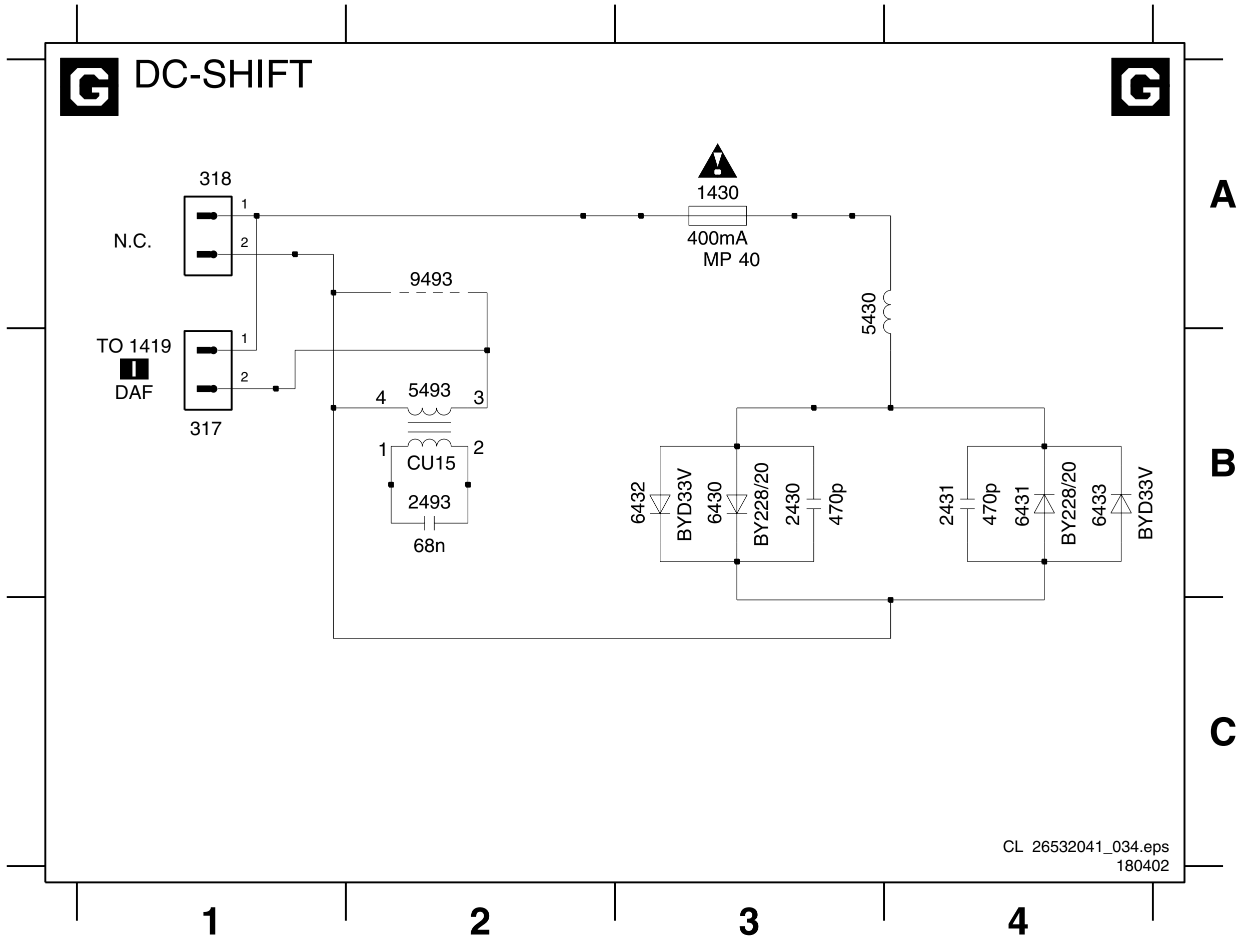
Layout CRT Panel (PV2 Styling) (Bottom Side)


1
2
3
A
B
C
F6
F3
F1
F5
F4
F8
F9
F7
F15
F10
F13
F11
F12
F14
SC3
6307
6310
6305
6306
2318
9413
3412
2411
7308
7303
7310
9403
3426
3424
7301
7300
9404
6300
6301
7304
3304
3421
9402
7309
7302
3310
3356
3423
ATTENTION - LIVE PARTS

CL 26532067_017.eps
210602

2302	C3
2306	B3
2309	C2
2315	B1
2318	A1
2320	A1
2321	A1
2322	A1
2323	A1
2325	B3
2330	B2
2332	A1
2333	A1
2334	A1
2408	B2
2409	C3
2410	B1
2411	B1
2412	B1
2420	B3
2421	B2
2424	C2
2425	B2
3302	B2
3303	B3
3304	C2
3306	B2
3307	B3
3308	C2
3310	C1
3311	B3
3312	C3
3316	C2
3318	C2
3319	C2
3324	C2
3325	B1
3335	A1
3336	A1
3337	A1
3354	A1
3355	C2
3356	C1
3357	C2
3358	A1
3359	A1
3360	A1
3410	B1
3411	B1
3412	B1
3413	B1
3414	B1
3417	B3
3418	B1
3420	C2
3421	C2
3422	C2
3423	C1
3424	C2
3425	B2
3426	B2
3427	B2
3999	C3
6300	C3
6301	C3
6305	A2
6306	A2
6307	A2
6310	A1
7300	C3
7301	B3
7302	C2
7303	B1
7304	C3
7308	B1
7309	C2
7310	C1
9402	C2
9403	B1
9404	C3
9405	A1
9406	B2
9407	B3
9408	B3
9409	B1
9410	B1
9411	B2
9413	B2

DC Shift Panel

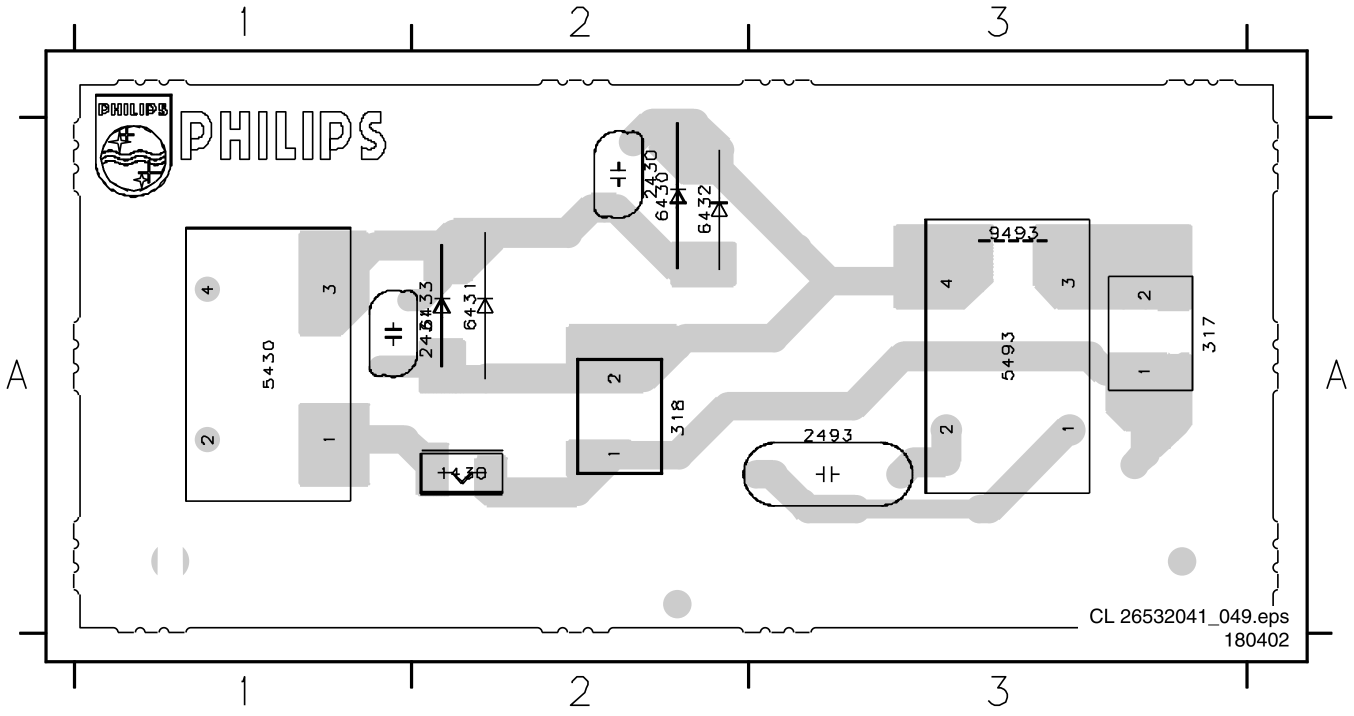

G
DC-SHIFT
G
318
N.C.
1
2
TO 1419
DAF
317
1430
400mA
MP 40
9493
5493
4
3
1
2
CU15
2493
68n
5430
6432
BYD33V
6430
BY228/20
2430
470p
2431
470p
6431
BY228/20
6433
BYD33V
A
B
C
1
2
3
4

CL 26532041_034.eps
180402

317	**B1**
318	**A1**
1430	**A3**
2430	**B3**
2431	**B4**
2493	**B2**
5430	**A3**
5493	**B2**
6430	**B3**
6431	**B4**
6432	**B3**
6433	**B4**

Layout DC Shift Panel

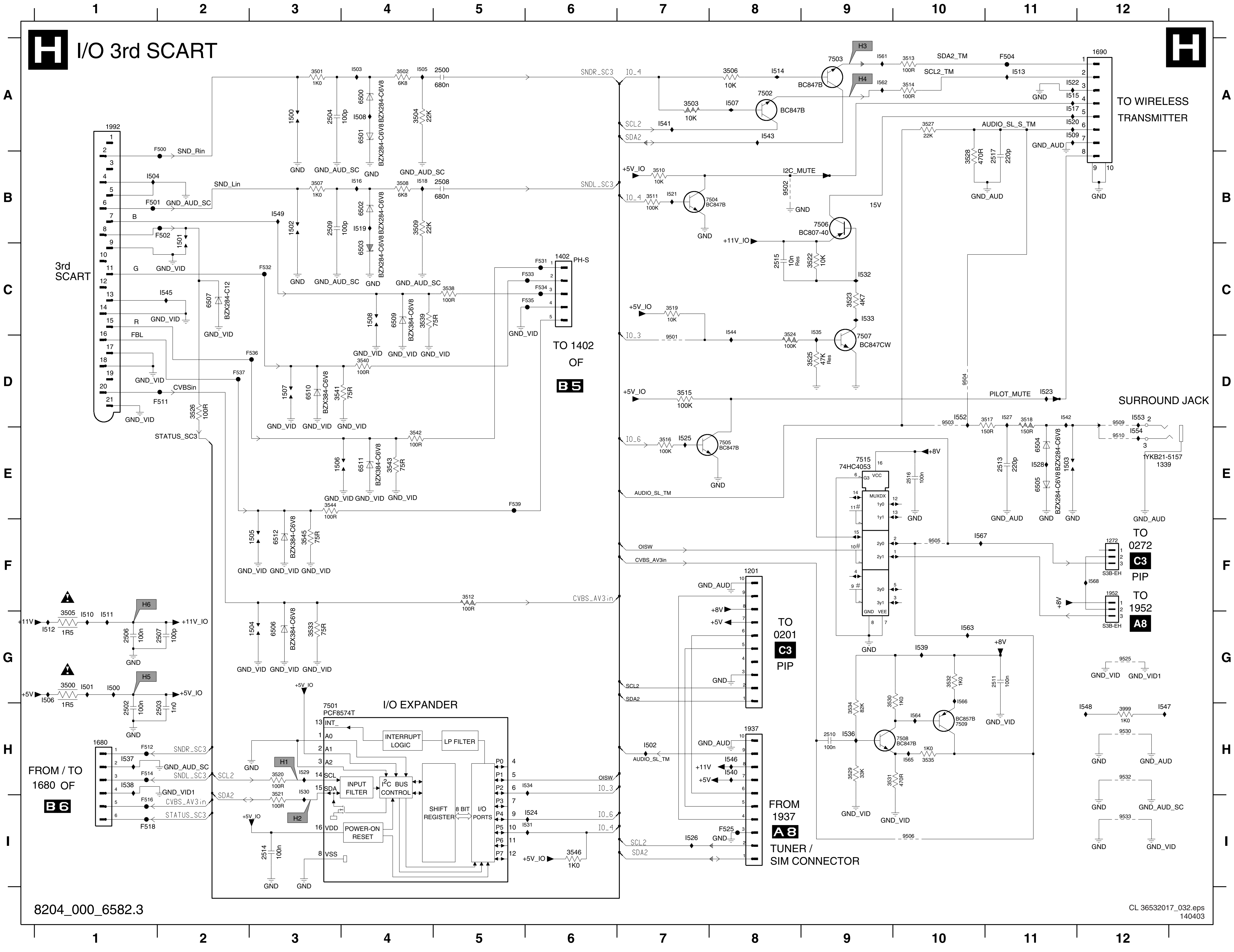
317	A3	2430	A2	5430	A1	6431	A2	9493	A3
318	A2	2431	A1	5493	A3	6432	A2		
1430	A2	2493	A3	6430	A2	6433	A2		


1
2
3
A
A
PHILIPS
PHILIPS
5430
4
3
2
1
2431
6433
6431
2430
6430
6432
318
2
1
2493
1430
9493
5493
4
3
2
1
317
2
1

CL 26532041_049.eps
180402

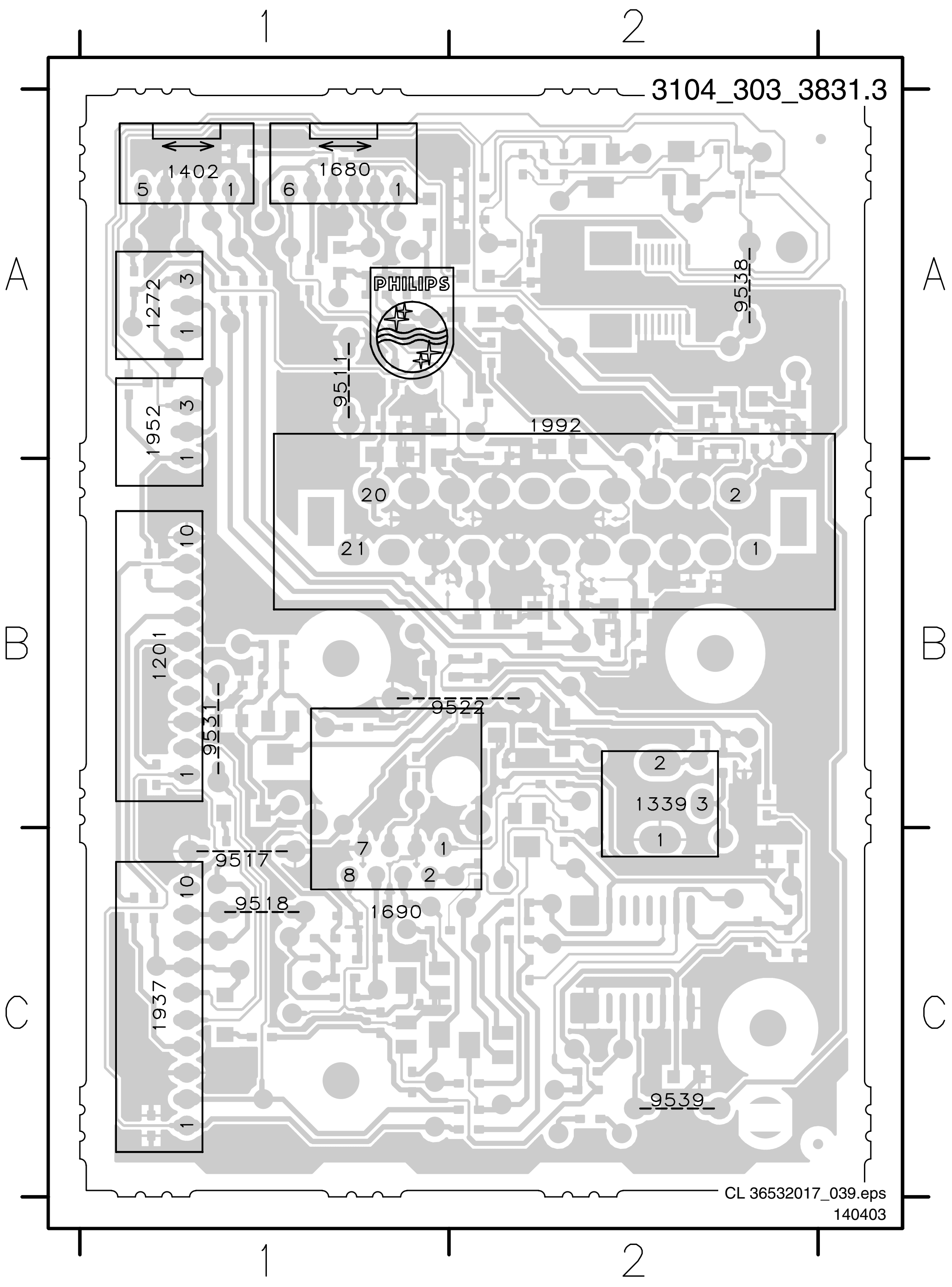
Personal Notes:

I/O 3rd Scart


H
I/O 3rd SCART
1992
3rd SCART
TO 1402 OF B5
1402 PH-S
1690
TO WIRELESS TRANSMITTER
SURROUND JACK
YKB21-5157
1339
7515 74HC4053
1272 S3B-EH
TO 0272 C3 PIP
1952 S3B-EH
TO 1952 A8
1201
TO 0201 C3 PIP
1937
FROM 1937 A8 TUNER / SIM CONNECTOR
I/O EXPANDER
7501 PCF8574T
INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I²C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
1680
FROM / TO 1680 OF B6
SNDR_SC3
SNDL_SC3
SCL2
SDA2
CVBS_AV3in
STATUS_SC3
SDA2_TM
SCL2_TM
AUDIO_SL_S_TM
I2C_MUTE
PILOT_MUTE
AUDIO_SL_TM
OISW
IO_3
IO_4
IO_6
+11V
+11V_IO
+5V
+5V_IO
+8V
GND
GND_AUD
GND_AUD_SC
GND_VID
GND_VID1
7502 BC847B
7503 BC847B
7504 BC847B
7505 BC847B
7506 BC807-40
7507 BC847CW
7508 BC847B
7509 BC857B
8204_000_6582.3
CL 36532017_032.eps 140403
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H I

1201	F8
1272	F12
1339	E12
1402	C6
1500	A3
1501	B2
1502	B3
1503	E11
1504	G3
1505	F3
1506	E3
1507	D3
1508	C4
1680	H1
1690	A12
1937	H8
1952	F12
1992	A1
2500	A5
2502	H1
2503	H2
2504	A3
2506	G1
2507	G2
2508	B5
2509	B3
2510	H9
2511	G11
2513	E11
2514	I3
2515	C8
2516	E10
2517	B11
3500	G1
3501	A3
3502	A4
3503	A7
3504	A4
3505	G1
3506	A8
3507	B3
3508	B4
3509	B4
3510	B7
3511	B7
3512	F5
3513	A10
3514	A10
3515	D7
3516	E7
3517	D11
3518	D11
3519	C7
3520	H3
3521	I3
3522	C9
3523	C9
3524	D8
3525	D9
3526	D2
3527	A10
3528	B10
3529	H9
3530	G9
3531	H9
3532	G10
3533	G3
3534	H9
3535	H10
3538	C5
3539	C4
3540	D4
3541	D3
3542	E4
3543	E4
3544	E3
3545	F3
3546	I6
3999	H12
6500	A4
6501	A4
6502	B4
6503	C4
6504	E11
6505	E11
6506	G3
6507	C2
6509	C4
6510	D3
6511	E4
6512	F3
7501	H3
7502	A8
7503	A9
7504	B7
7505	E8
7506	B9
7507	D9
7508	H10
7509	H10
7515	E9
9501	D7
9502	B8
9503	D10
9504	D10
9505	F10
9506	I10
9509	D12
9510	E12
9525	G12
9530	H12
9532	H12
9533	I12
F500	A2
F501	B1
F502	B2
F504	A11
F511	D2
F512	H1
F514	H1
F516	I1
F518	I1
F525	I8
F531	C6
F532	C3
F533	C6
F534	C6
F535	C6
F536	D3
F537	D2
F539	E5
I500	G1
I501	G1
I502	H7
I503	A4
I504	B1
I505	A4
I506	G1
I507	A8
I508	A4
I509	A11
I510	G1
I511	G1
I512	G1
I513	A11
I514	A8
I515	A11
I516	B4
I517	A11
I518	B4
I519	B4
I520	A11
I521	B7
I522	A11
I523	D11
I524	I6
I525	E7
I526	I7
I527	D11
I528	E11
I529	H3
I530	H3
I531	I6
I532	C9
I533	C9
I534	H6
I535	C9
I536	H9
I537	H1
I538	H1
I539	G10
I540	H8
I541	A7
I542	D11
I543	A8
I544	C8
I545	C2
I546	H8
I547	H12
I548	H12
I549	B3
I552	D10
I553	D12
I554	E12
I561	A9
I562	A9
I563	G10
I564	H10
I565	H10
I566	G10
I567	F10
I568	F12

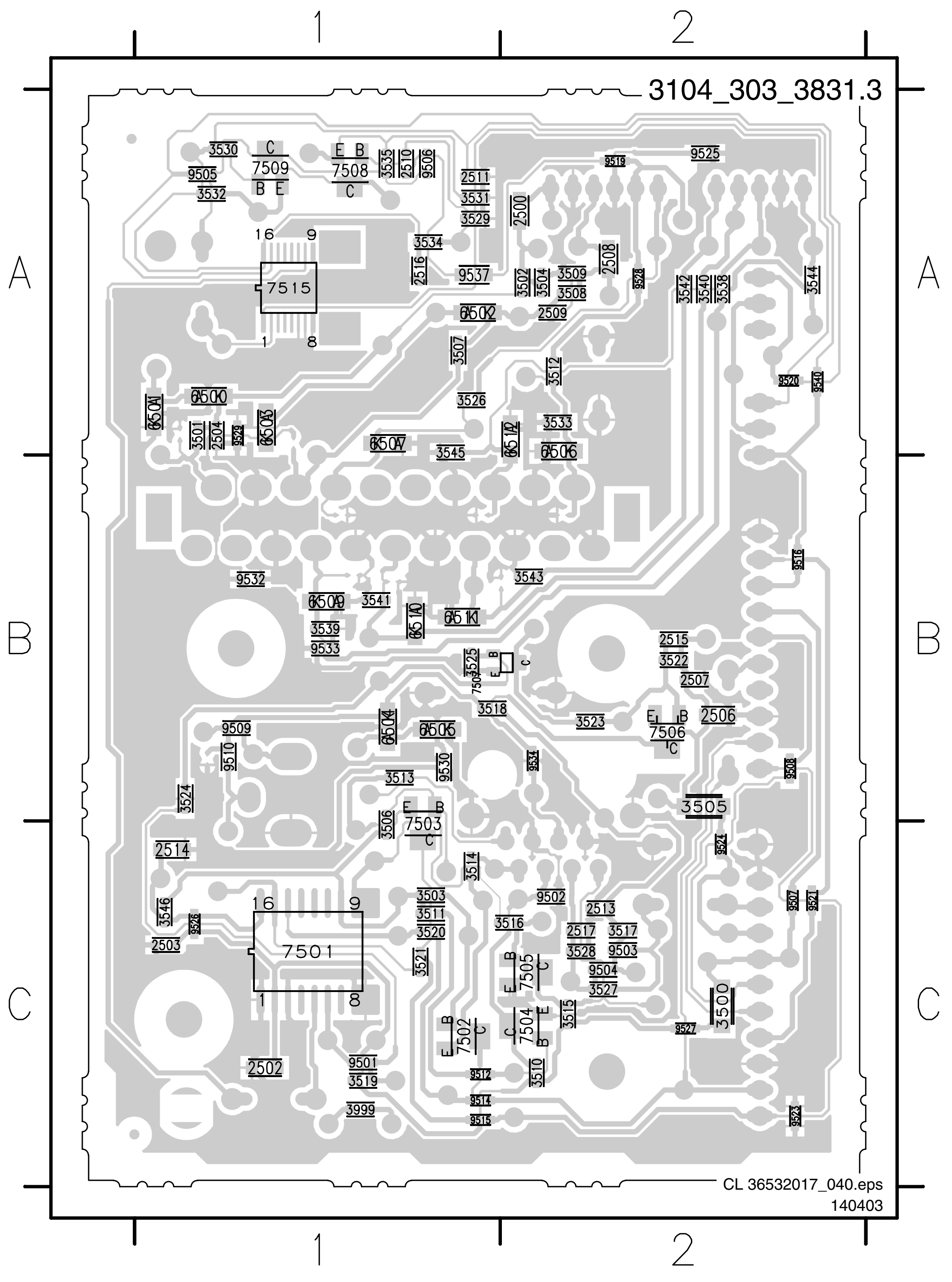
Layout I/O 3rd Scart (Top Side)


1
2
A
B
C
3104_303_3831.3
1402
5
1
1680
6
1
1272
3
1
1952
3
1
1201
10
1
1937
10
1
PHILIPS
9511
9538
1992
20
2
21
1
9522
9531
9517
9518
1690
7
1
8
2
1339
2
3
1
9539

CL 36532017_039.eps
140403

1201	B1
1272	A1
1339	B2
1402	A1
1680	A1
1690	B1
1937	C1
1952	A1
1992	A2
9511	A1
9517	C1
9518	C1
9522	B2
9531	B1
9538	A2
9539	C2

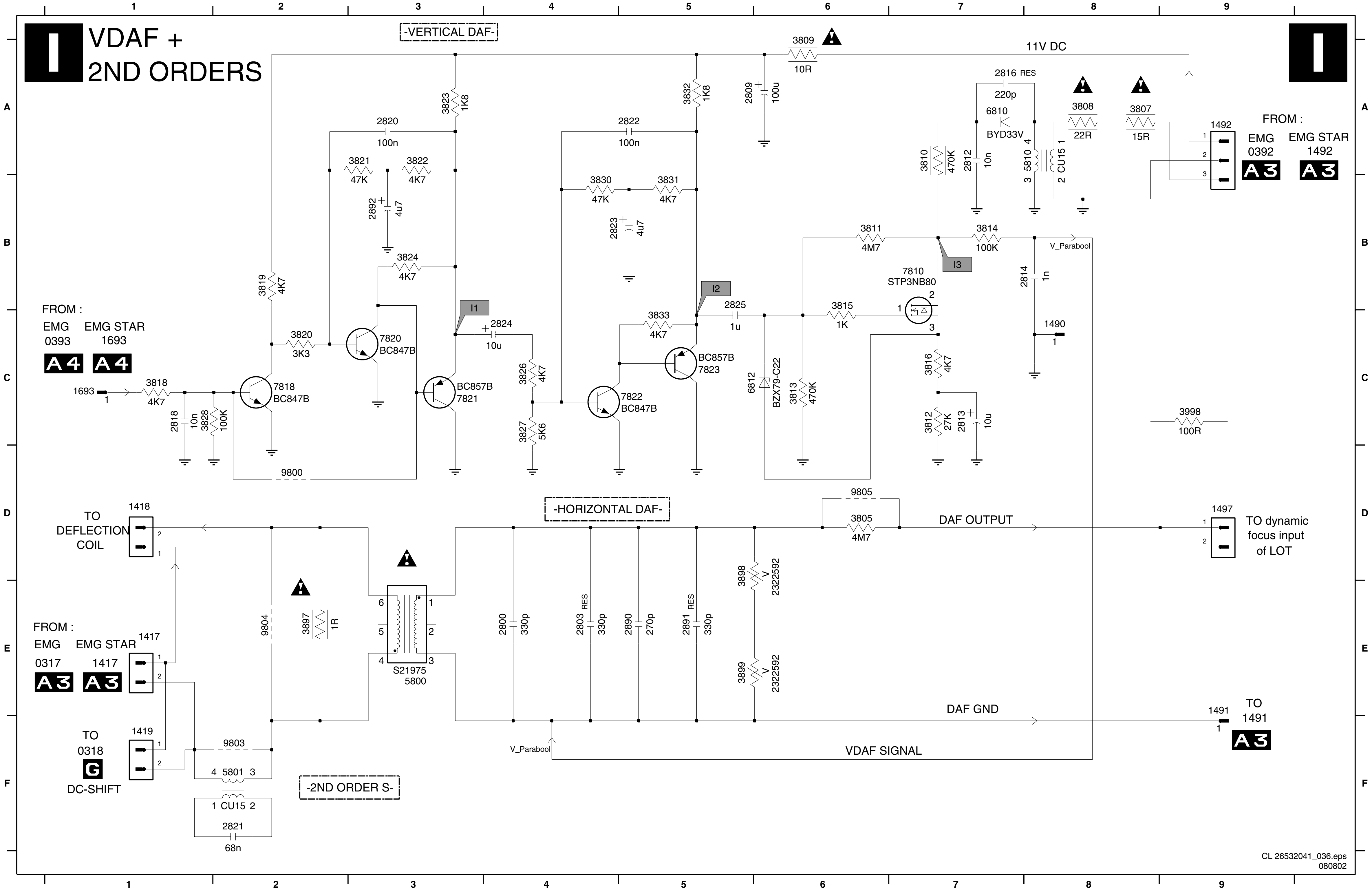
Layout I/O 3rd Scart (Bottom Side)


1
2
A
B
C
3104_303_3831.3
7515
7509
7508
7501
7503
7506
7502
7504
7505
3505
3500
2502
2514
2503
3999

CL 36532017_040.eps
140403

2500	A2
2502	C1
2503	C1
2504	A1
2506	B2
2507	B2
2508	A2
2509	A2
2510	A1
2511	A1
2513	C2
2514	C1
2515	B2
2516	A1
2517	C2
3500	C2
3501	A1
3502	A2
3503	C1
3504	A2
3505	B2
3506	C1
3507	A1
3508	A2
3509	A2
3510	C2
3511	C1
3512	A2
3513	B1
3514	C1
3515	C2
3516	C2
3517	C2
3518	B1
3519	C1
3520	C1
3521	C1
3522	B2
3523	B2
3524	B1
3525	B1
3526	A1
3527	C2
3528	C2
3529	A1
3530	A1
3531	A1
3532	A1
3533	A2
3534	A1
3535	A1
3538	A2
3539	B1
3540	A2
3541	B1
3542	A2
3543	B2
3544	A2
3545	A1
3546	C1
3999	C1
6500	A1
6501	A1
6502	A1
6503	A1
6504	B1
6505	B1
6506	A2
6507	B1
6509	B1
6510	B1
6511	B2
6512	A2
7501	C1
7502	C1
7503	C1
7504	C2
7505	C2
7506	B2
7507	B2
7508	A1
7509	A1
7515	A1
9501	C1
9502	C2
9503	C2
9504	C2
9505	A1
9506	A1
9507	C2
9508	B2
9509	B1
9510	B1
9512	C1
9514	C1
9515	C1
9516	B2
9519	A2
9520	A2
9521	C2
9523	C2
9524	C2
9525	A2
9526	C1
9527	C2
9528	A2
9529	A1
9530	B1
9532	B1
9533	B1
9534	B2
9537	A1
9540	A2

VDAF Panel + 2nd Orders

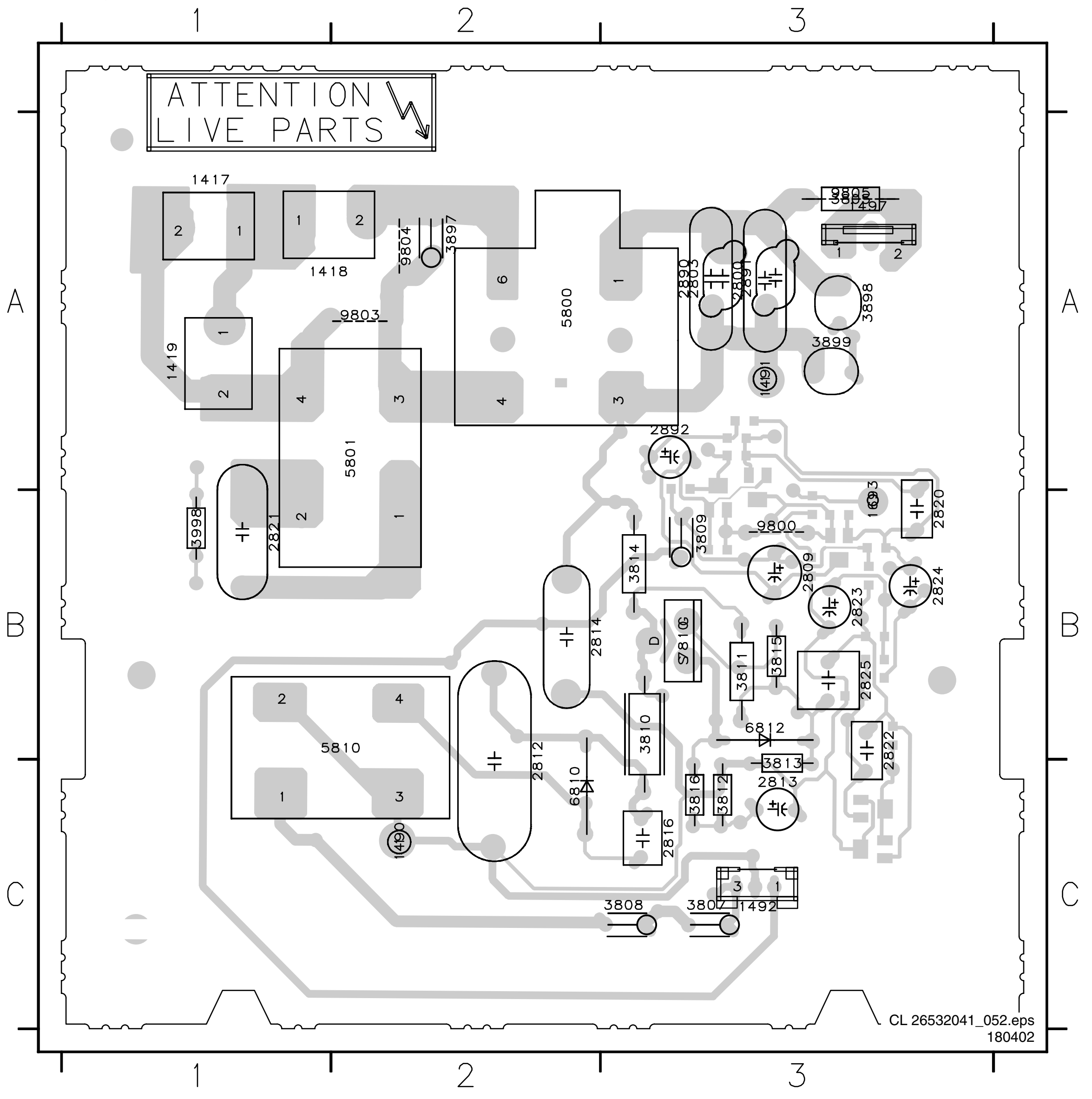

I
VDAF +
2ND ORDERS
-VERTICAL DAF-
-HORIZONTAL DAF-
-2ND ORDER S-
11V DC
3809
10R
2816 RES
220p
6810
BYD33V
3808
22R
3807
15R
1492
FROM :
EMG
0392
EMG STAR
1492
A3
A3
3823
1K8
2820
100n
3821
47K
3822
4K7
2892
4u7
3824
4K7
3819
4K7
3820
3K3
7820
BC847B
I1
2824
10u
BC857B
7821
3818
4K7
1693
2818
10n
3828
100K
7818
BC847B
9800
FROM :
EMG
0393
EMG STAR
1693
A4
A4
3832
1K8
2809
100u
2822
100n
3830
47K
3831
4K7
2823
4u7
I2
3833
4K7
2825
1u
BC857B
7823
7822
BC847B
3826
4K7
3827
5K6
6812
BZX79-C22
3813
470K
3810
470K
2812
10n
5810
CU15
3811
4M7
3814
100K
V_Parabool
I3
7810
STP3NB80
3815
1K
2814
1n
1490
3816
4K7
3812
27K
2813
10u
3998
100R
9805
3805
4M7
DAF OUTPUT
1497
TO dynamic
focus input
of LOT
1418
TO
DEFLECTION
COIL
9804
3897
1R
S21975
5800
2800
330p
2803 RES
330p
2890
270p
2891 RES
330p
3898
2322592
3899
2322592
DAF GND
1491
TO
1491
A3
VDAF SIGNAL
V_Parabool
FROM :
EMG
0317
EMG STAR
1417
A3
A3
TO
0318
1419
G
DC-SHIFT
9803
5801
CU15
2821
68n
CL 26532041_036.eps
080802

1417	E1	7818	C2
1418	D1	7820	C3
1419	F1	7821	C3
1490	C8	7822	C5
1491	E9	7823	C5
1492	A9	9800	D2
1497	D9	9803	F2
1693	C1	9804	E2
2800	E4	9805	D6
2803	E4		
2809	A5		
2812	A7		
2813	C7		
2814	B8		
2816	A7		
2818	C1		
2820	A3		
2821	F2		
2822	A5		
2823	B4		
2824	C4		
2825	B5		
2890	E5		
2891	E5		
2892	B3		
3805	D6		
3807	A8		
3808	A8		
3809	A6		
3810	A7		
3811	B6		
3812	C7		
3813	C6		
3814	B7		
3815	B6		
3816	C7		
3818	C1		
3819	B2		
3820	C2		
3821	A3		
3822	A3		
3823	A3		
3824	B3		
3826	C4		
3827	C4		
3828	C1		
3830	B4		
3831	B5		
3832	A5		
3833	C5		
3897	E2		
3898	D5		
3899	E5		
3998	C9		
5800	E3		
5801	F2		
5810	A8		
6810	A7		
6812	C6		
7810	B7		

[I] VDAF+2ND ORDER S

Item	29RF	28RF/32RF	34RF/38RF	36RF	Description
1492	X		X	X	3p
1693	X		X	X	1p
2800	X				330pF
2800		X	X		470pF
2800				X	390pF
2809	X		X	X	100uF
2812	X		X	X	10nF
2813	X		X	X	10uF
2814	X		X	X	1nF
2821	X	X			68nF
2822	X		X	X	4nF
2824	X		X	X	10uF
2825	X		X	X	1uF
2890	X				270pF
2890		X			220pF
2890			X		470pF
2890				X	390pF
3807	X		X	X	15R
3808	X		X	X	15R
3809	X		X	X	10R
3810	X		X	X	470kR
3811	X		X	X	4.7MR
3812	X		X	X	27kR
3813	X		X	X	470kR
3814	X		X	X	100kR
3815	X		X	X	1kR
3816	X		X		4.7kR
3816				X	2.2kR
3818	X		X	X	33kR
3820	X		X	X	Jumper
3821	X		X	X	Jumper
3822	X		X	X	Jumper
3823	X		X	X	1.5kR
3824	X		X	X	33kR
3826	X		X	X	3.3kR
3827	X		X	X	5.6kR
3828	X		X	X	100kR
3830	X		X	X	47kR
3831	X		X	X	4.7kR
3832	X		X	X	1.8kR
3833	X		X	X	4.7kR
5801	X	X			Transformer
5810	X		X	X	Bridge coil
6810	X		X	X	BYD33V
6812	X		X	X	BZX79-C22
7810	X		X	X	STP3NB80FP
7818	X		X	X	BC847B
7822	X		X	X	BC847B
7823	X		X	X	BC857B
9800	X		X	X	Wire
9803			X	X	Wire

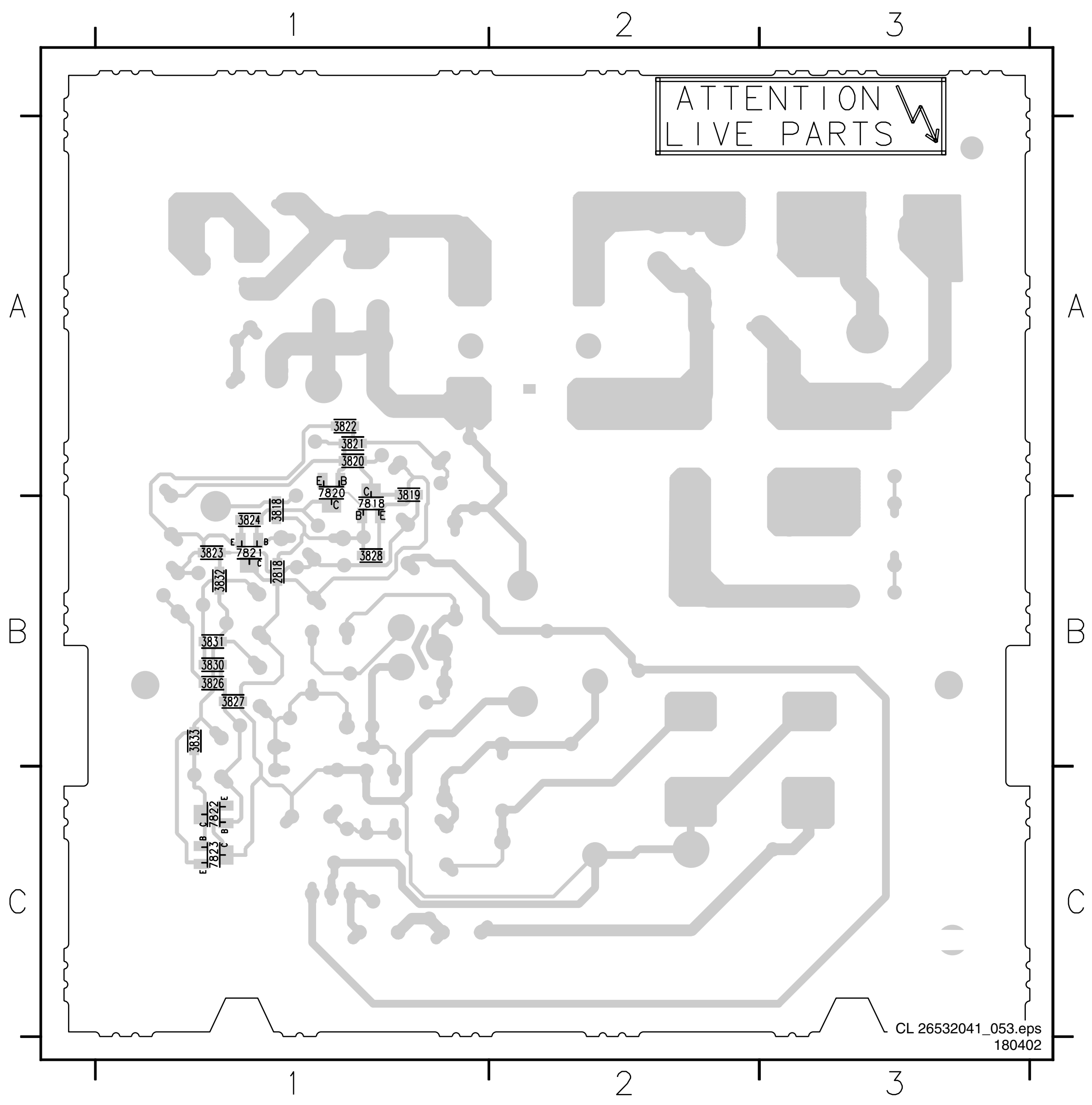
Layout VDAF Panel (Top Side)


1
2
3
A
B
C
ATTENTION
LIVE PARTS
1417
1418
1419
1490
1491
1492
1497
1693
2800
2803
2809
2812
2813
2814
2816
2820
2821
2822
2823
2824
2825
2890
2891
2892
3805
3807
3808
3809
3810
3811
3812
3813
3814
3815
3816
3897
3898
3899
3998
5800
5801
5810
6810
6812
7810
9800
9803
9804
9805

CL 26532041_052.eps
180402

1417	A1
1418	A1
1419	A1
1490	C2
1491	A3
1492	C3
1497	A3
1693	B3
2800	A3
2803	A3
2809	B3
2812	C2
2813	C3
2814	B2
2816	C3
2820	B3
2821	B1
2822	B3
2823	B3
2824	B3
2825	B3
2890	A3
2891	A3
2892	A3
3805	A3
3807	C3
3808	C3
3809	B3
3810	B3
3811	B3
3812	C3
3813	C3
3814	B3
3815	B3
3816	C3
3897	A2
3898	A3
3899	A3
3998	B1
5800	A2
5801	A1
5810	B2
6810	C2
6812	B3
7810	B3
9800	B3
9803	A2
9804	A2
9805	A3

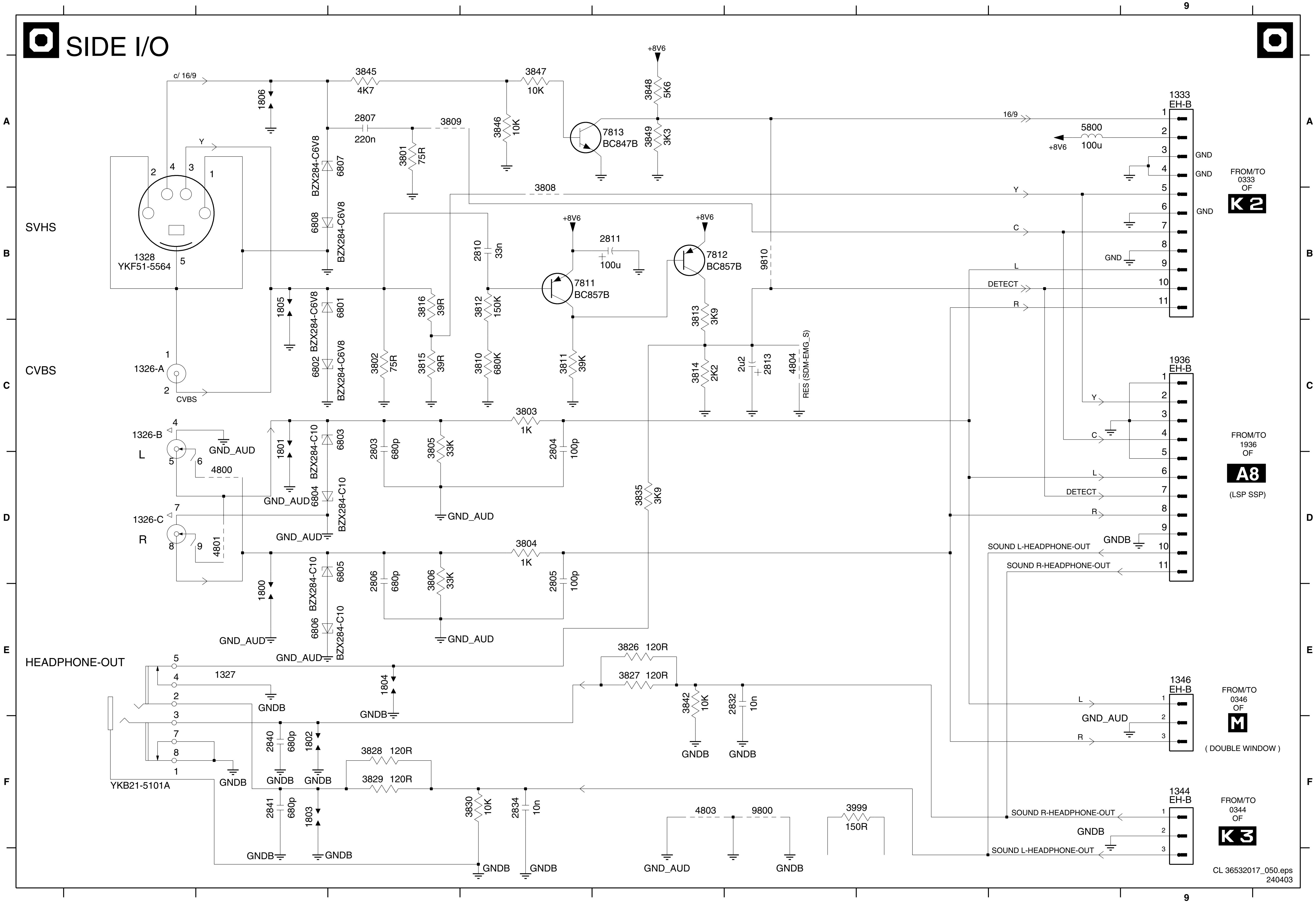
Layout VDAF Panel (Bottom Side)


1
2
3
A
B
C
ATTENTION
LIVE PARTS
3822
3821
3820
7820
7818
3819
3824
3818
3823
7821
3832
2818
3828
3831
3830
3826
3827
3833
7822
7823

CL 26532041_053.eps
180402

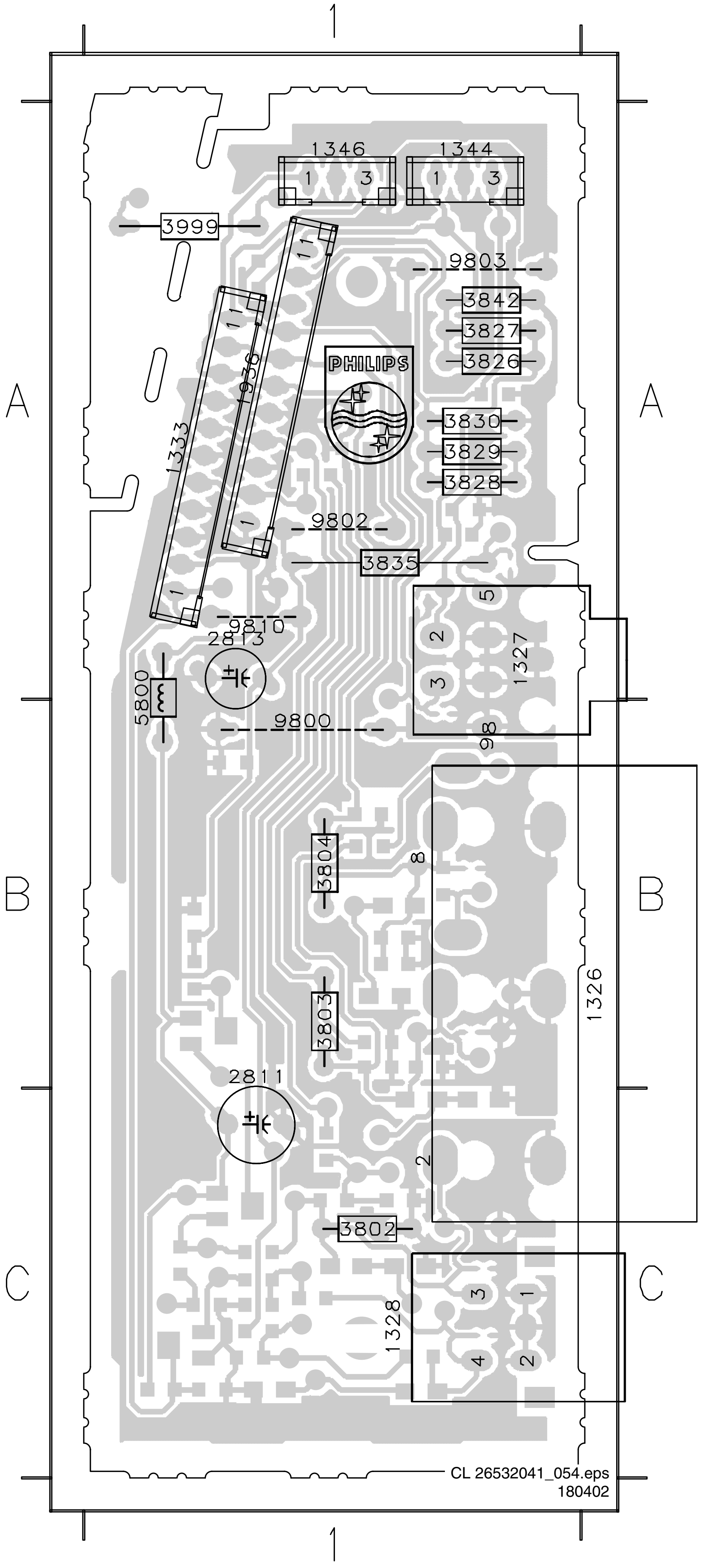
2818	B1
3818	B1
3819	A1
3820	A1
3821	A1
3822	A1
3823	B1
3824	B1
3826	B1
3827	B1
3828	B1
3830	B1
3831	B1
3832	B1
3833	B1
7818	B1
7820	A1
7821	B1
7822	C1
7823	C1

Side I/O Panel (FL11 Styling)


SIDE I/O
SVHS
CVBS
HEADPHONE-OUT
1328
YKF51-5564
1326-A
1326-B
1326-C
L
R
1327
YKB21-5101A
c/ 16/9
Y
CVBS
3845 4K7
3847 10K
+8V6
3848 5K6
3849 3K3
3846 10K
7813 BC847B
2807 220n
3809
3801 75R
1806
BZX284-C6V8
6807
6808
3808
2810 33n
2811 100u
7811 BC857B
7812 BC857B
9810
3816 39R
3812 150K
1805
6801
6802
3802 75R
3815 39R
3810 680K
3811 39K
3813 3K9
3814 2K2
2u2 2813
4804 RES (SDM-EMG_S)
3803 1K
1801
BZX284-C10
6803
6804
2803 680p
3805 33K
2804 100p
GND_AUD
4800
4801
1800
3804 1K
6805
6806
2806 680p
3806 33K
2805 100p
3835 3K9
GNDB
1804
3826 120R
3827 120R
3842 10K
2832 10n
2840 680p
1802
3828 120R
3829 120R
2841 680p
1803
3830 10K
2834 10n
4803
9800
3999 150R
1333 EH-B
16/9
5800 100u
GND
DETECT
FROM/TO 0333 OF
K2
1936 EH-B
FROM/TO 1936 OF
A8
(LSP SSP)
SOUND L-HEADPHONE-OUT
SOUND R-HEADPHONE-OUT
1346 EH-B
FROM/TO 0346 OF
M
(DOUBLE WINDOW)
1344 EH-B
FROM/TO 0344 OF
K3
A B C D E F
9
CL 36532017_050.eps
240403

1326-A	C1
1326-B	C1
1326-C	D1
1327	E2
1328	B1
1333	A9
1344	F9
1346	E9
1800	E2
1801	C2
1802	F2
1803	F2
1804	E3
1805	B2
1806	A2
1936	C9
2803	C3
2804	C4
2805	D4
2806	D3
2807	A3
2810	B4
2811	B5
2813	C6
2832	E6
2834	F4
2840	F2
2841	F2
3801	A3
3802	C3
3803	C4
3804	D4
3805	C3
3806	D3
3808	B4
3809	A3
3810	C4
3811	C4
3812	B4
3813	B5
3814	C5
3815	C3
3816	B3
3826	E5
3827	E5
3828	F3
3829	F3
3830	F4
3835	D5
3842	E5
3845	A3
3846	A4
3847	A4
3848	A5
3849	A5
3999	F7
4800	D2
4801	D2
4803	F5
4804	C6
5800	A8
6801	B3
6802	C2
6803	C3
6804	D2
6805	D3
6806	E2
6807	A3
6808	B2
7811	B4
7812	B5
7813	A5
9800	F6
9810	B6

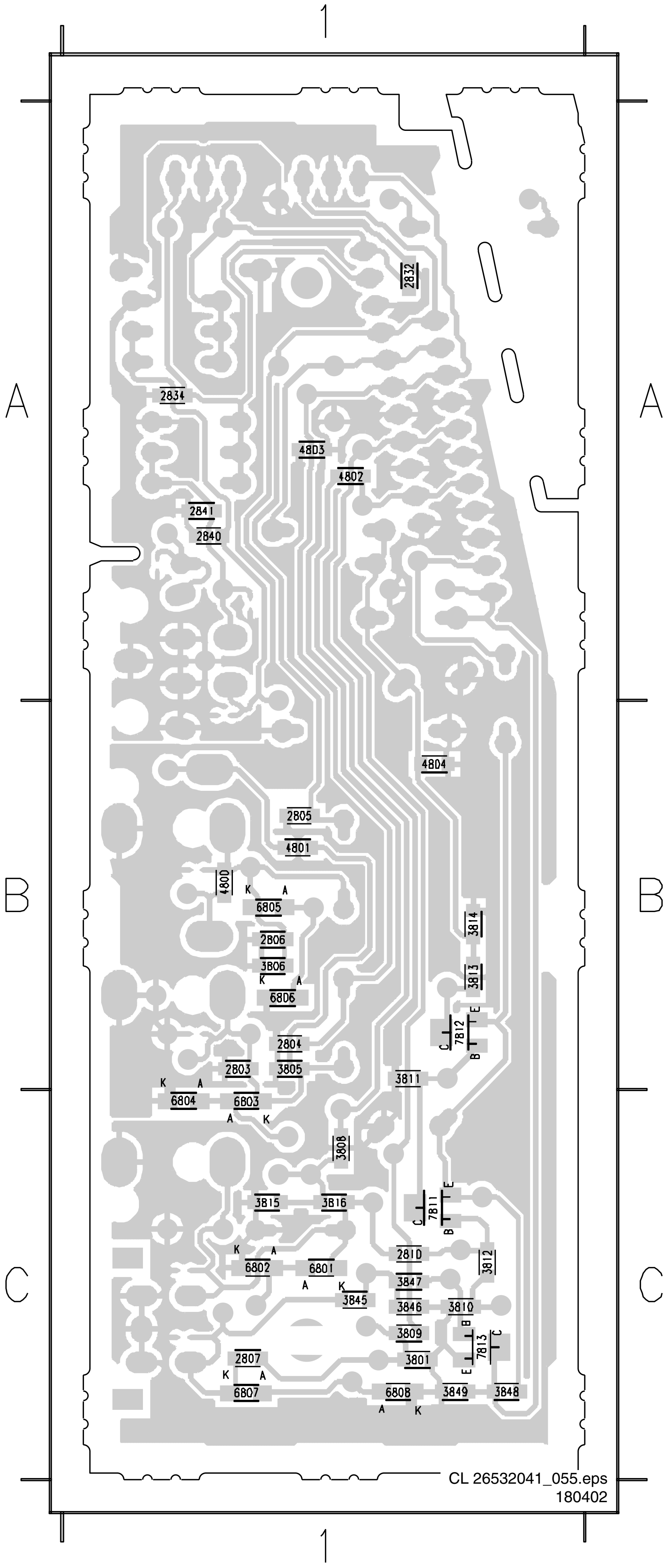
Layout Side I/O Panel (FL11 Styling) (Top Side)


1
A
B
C
1346
1344
1 3
1 3
3999
9803
3842
3827
3826
PHILIPS
1936
1333
3830
3829
3828
9802
3835
9810
2813
5800
1327
9800
3804
1326
3803
2811
3802
1328

CL 26532041_054.eps
180402

1326	B1
1327	A1
1328	C1
1333	A1
1344	A1
1346	A1
1936	A1
2811	B1
2813	A1
3802	C1
3803	B1
3804	B1
3826	A1
3827	A1
3828	A1
3829	A1
3830	A1
3835	A1
3842	A1
3999	A1
5800	A1
9800	B1
9802	A1
9803	A1
9810	A1

Layout Side I/O Panel (FL11 Styling) (Bottom Side)


1
A
B
C
2832
2834
4803
4802
2841
2840
4804
2805
4801
4800
6805
2806
3806
6806
3814
3813
7812
2804
2803
3805
6804
6803
3811
3808
3815
3816
7811
6802
6801
3845
2810
3847
3846
3810
3812
3809
7813
2807
3801
6807
6808
3849
3848

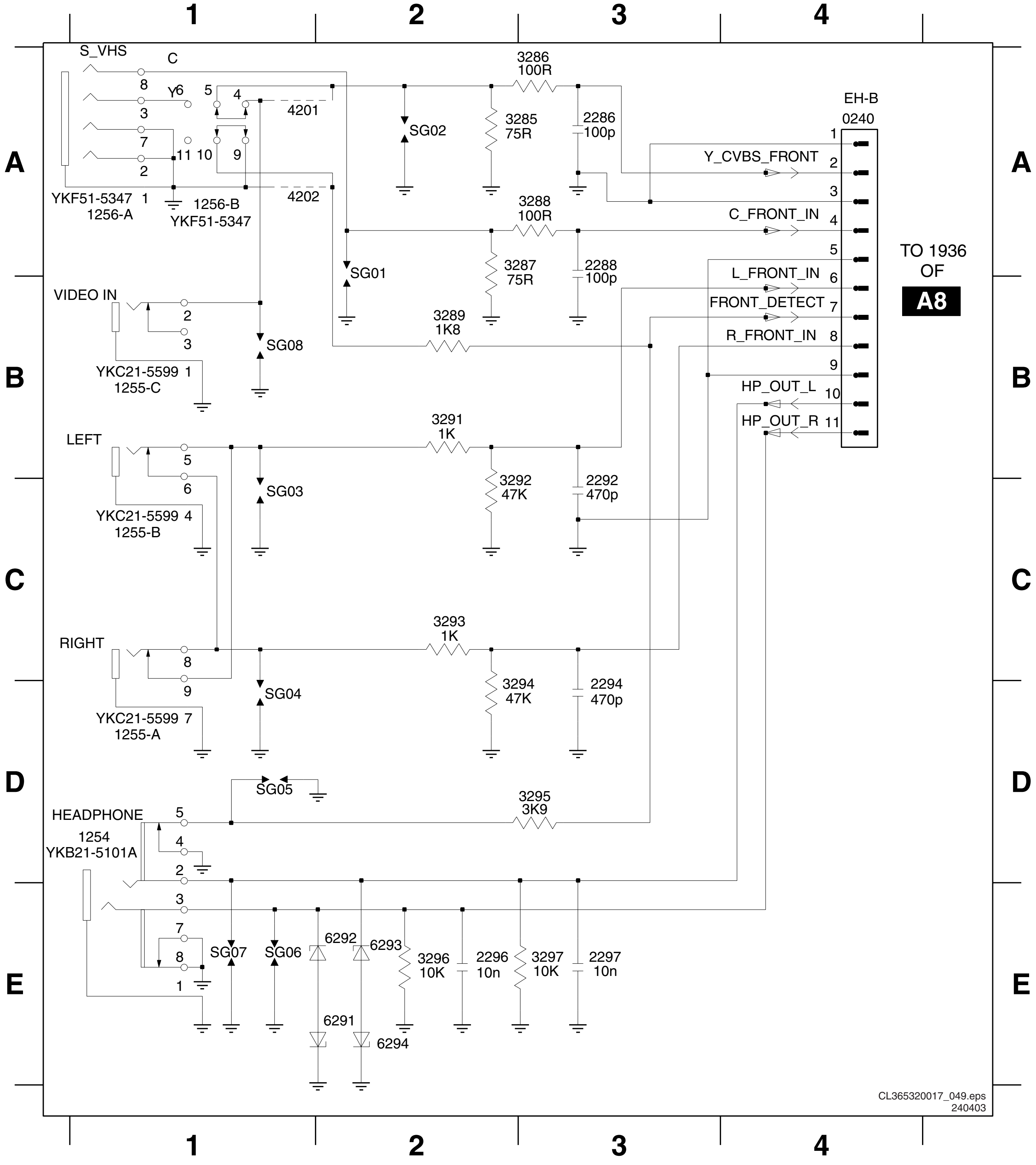
CL 26532041_055.eps
180402

2803	B1
2804	B1
2805	B1
2806	B1
2807	C1
2810	C1
2832	A1
2834	A1
2840	A1
2841	A1
3801	C1
3805	B1
3806	B1
3808	C1
3809	C1
3810	C1
3811	B1
3812	C1
3813	B1
3814	B1
3815	C1
3816	C1
3845	C1
3846	C1
3847	C1
3848	C1
3849	C1
4800	B1
4801	B1
4802	A1
4803	A1
4804	B1
6801	C1
6802	C1
6803	B1
6804	C1
6805	B1
6806	B1
6807	C1
6808	C1
7811	C1
7812	B1
7813	C1

Side I/O Panel (PV2 Styling)

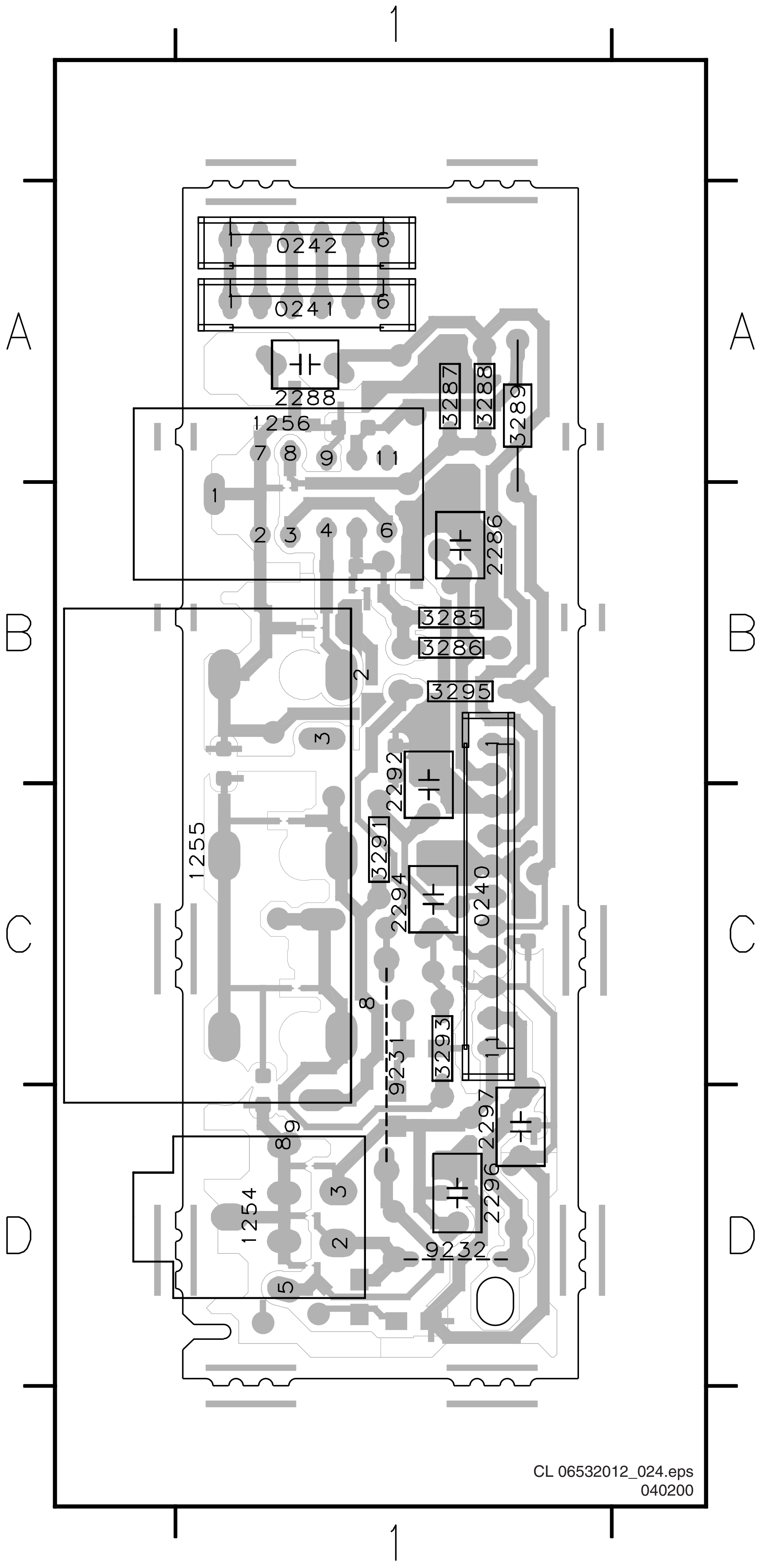
O SIDE IO PANEL

0240 A4
1254 D1
1255-A D1
1255-B C1
1255-C B1
1256-A A1
1256-B A1
2286 A3
2288 A3
2292 B3
2294 C3
2296 E2
2297 E3
3285 A3
3286 A3
3287 A3
3288 A3
3289 B2
3291 B2
3292 B2
3293 C2
3294 C3
3295 D3
3296 E2
3297 E3
4201 A1
4202 A1
6291 E2
6292 E2
6293 E2
6294 E2
SG01 B2
SG02 A2
SG03 C1
SG04 D1
SG05 D1
SG06 E1
SG07 E1
SG08 B1


1
2
3
4
A
B
C
D
E
S_VHS
C
Y
YKF51-5347
1256-A
1256-B
YKF51-5347
4201
4202
SG02
SG01
SG08
SG03
SG04
SG05
SG06
SG07
3286 100R
3285 75R
2286 100p
3288 100R
3287 75R
2288 100p
3289 1K8
EH-B
0240
Y_CVBS_FRONT
C_FRONT_IN
L_FRONT_IN
FRONT_DETECT
R_FRONT_IN
HP_OUT_L
HP_OUT_R
TO 1936 OF
A8
VIDEO IN
YKC21-5599
1255-C
LEFT
YKC21-5599
1255-B
3291 1K
3292 47K
2292 470p
RIGHT
YKC21-5599
1255-A
3293 1K
3294 47K
2294 470p
HEADPHONE
1254
YKB21-5101A
3295 3K9
6292
6293
6291
6294
3296 10K
2296 10n
3297 10K
2297 10n
CL365320017_049.eps
240403

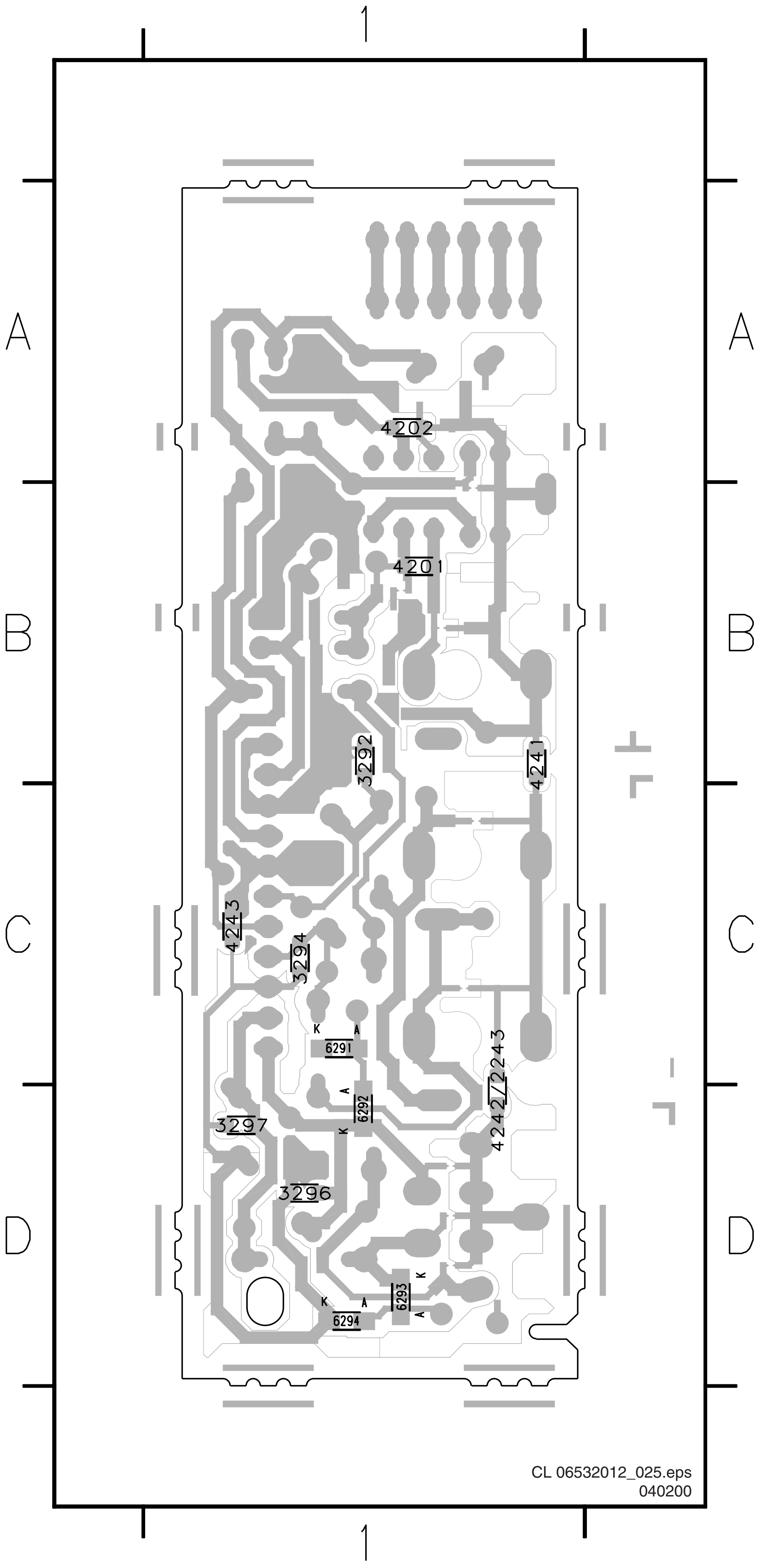
Personal Notes:

Layout Side I/O Panel (PV2 Styling) (Top Side)


1
A
B
C
D
0242
0241
2288
1256
7 8 9 11
1
2 3 4 6
3287
3288
3289
2286
3285
3286
3295
1255
2
3
2292
3291
2294
0240
8
3293
9231
2297
2296
1254
9232
CL 06532012_024.eps
040200

0240	C1
0241	A1
0242	A1
1254	D1
1255	C1
1256	A1
2286	B1
2288	A1
2292	B1
2294	C1
2296	D1
2297	D1
3285	B1
3286	B1
3287	A1
3288	A1
3289	A1
3291	C1
3293	C1
3295	B1
9231	C1
9232	D1

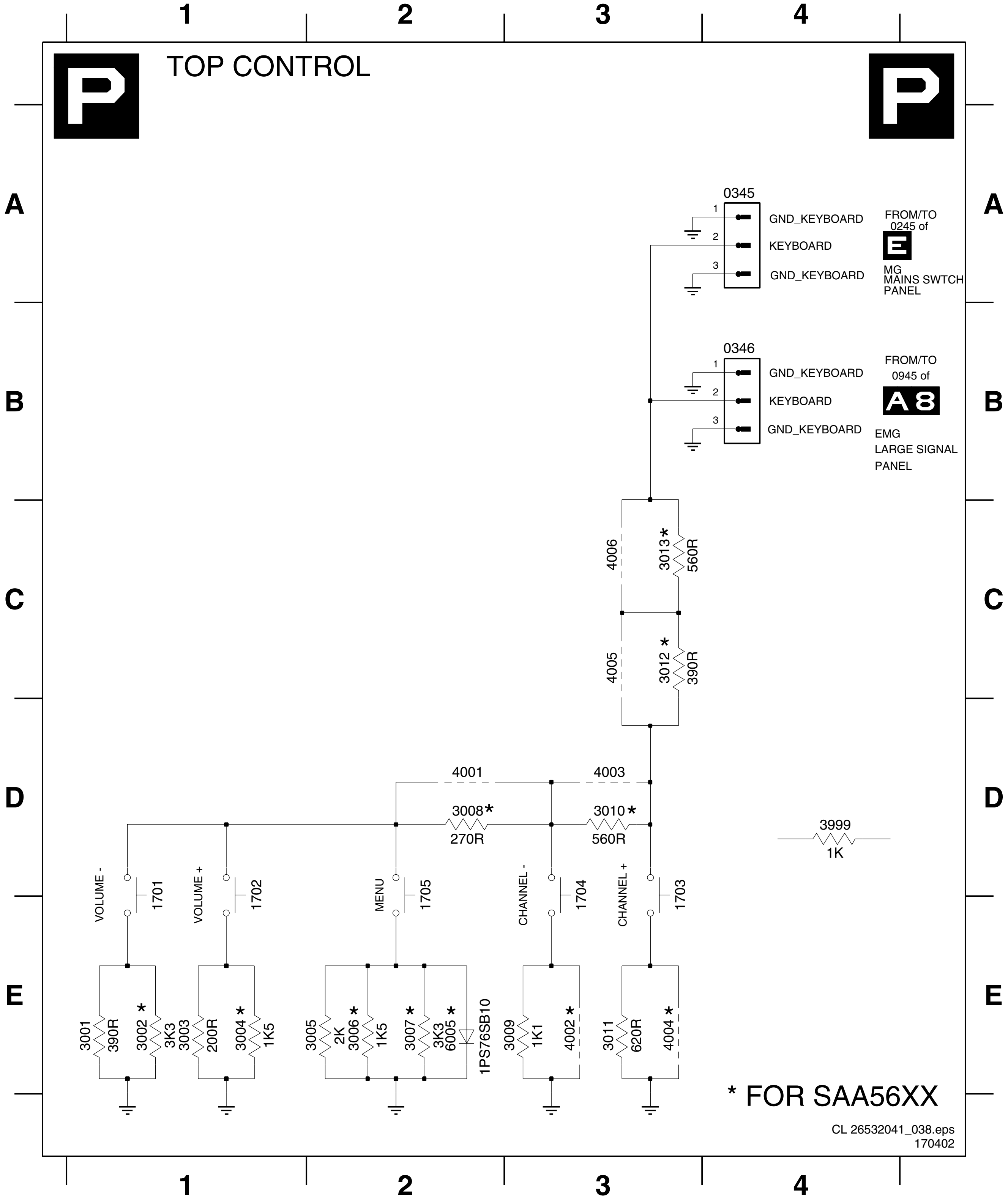
Layout Side I/O Panel (PV2 Styling) (Bottom Side)


1
A
B
C
D
4202
4201
3292
4241
4243
3294
6291
6292
4242/2243
3297
3296
6293
6294
K
A
CL 06532012_025.eps
040200

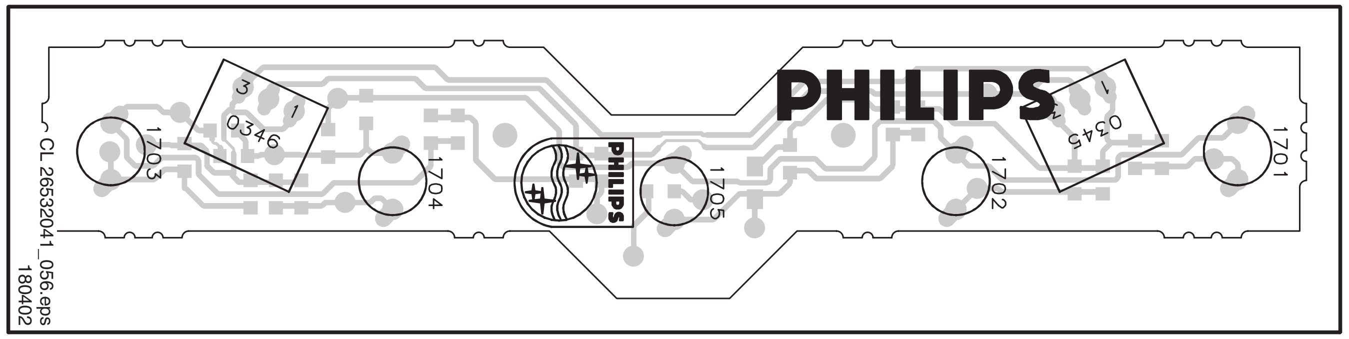
3292	B1
3294	C1
3296	D1
3297	D1
4201	B1
4202	A1
4241	B1
4242/2243	D1
4243	C1
6291	C1
6292	D1
6293	D1
6294	D1

Top Control Panel (FL11 Styling)

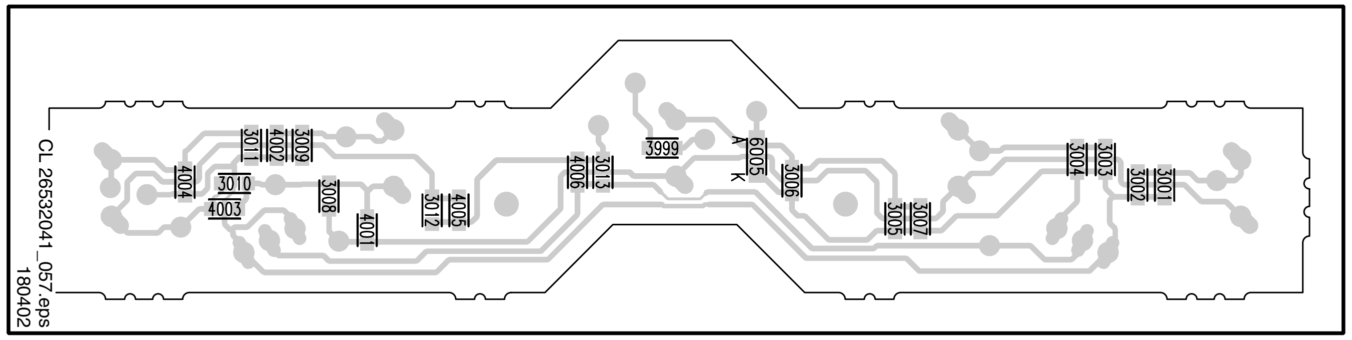
0345 A4
0346 B4
1701 D1
1702 D1
1703 D3
1704 D3
1705 D2
3001 E1
3002 E1
3003 E1
3004 E1
3005 E2
3006 E2
3007 E2
3008 D2
3009 E3
3010 D3
3011 E3
3012 C3
3013 C3
3999 D4
4001 D2
4002 E3
4003 D3
4004 E3
4005 C3
4006 C3
6005 E2


1
2
3
4
A
B
C
D
E
P
TOP CONTROL
P
0345
GND_KEYBOARD
KEYBOARD
GND_KEYBOARD
FROM/TO 0245 of
E
MG MAINS SWTCH PANEL
0346
GND_KEYBOARD
KEYBOARD
GND_KEYBOARD
FROM/TO 0945 of
A8
EMG LARGE SIGNAL PANEL
4006
3013 * 560R
4005
3012 * 390R
4001
4003
3008* 270R
3010* 560R
3999 1K
VOLUME - 1701
VOLUME + 1702
MENU 1705
CHANNEL - 1704
CHANNEL + 1703
3001 390R
3002 * 3K3
3003 200R
3004 * 1K5
3005 2K
3006 * 1K5
3007 * 3K3
6005 * 1PS76SB10
3009 1K1
4002 *
3011 620R
4004 *
* FOR SAA56XX
CL 26532041_038.eps 170402

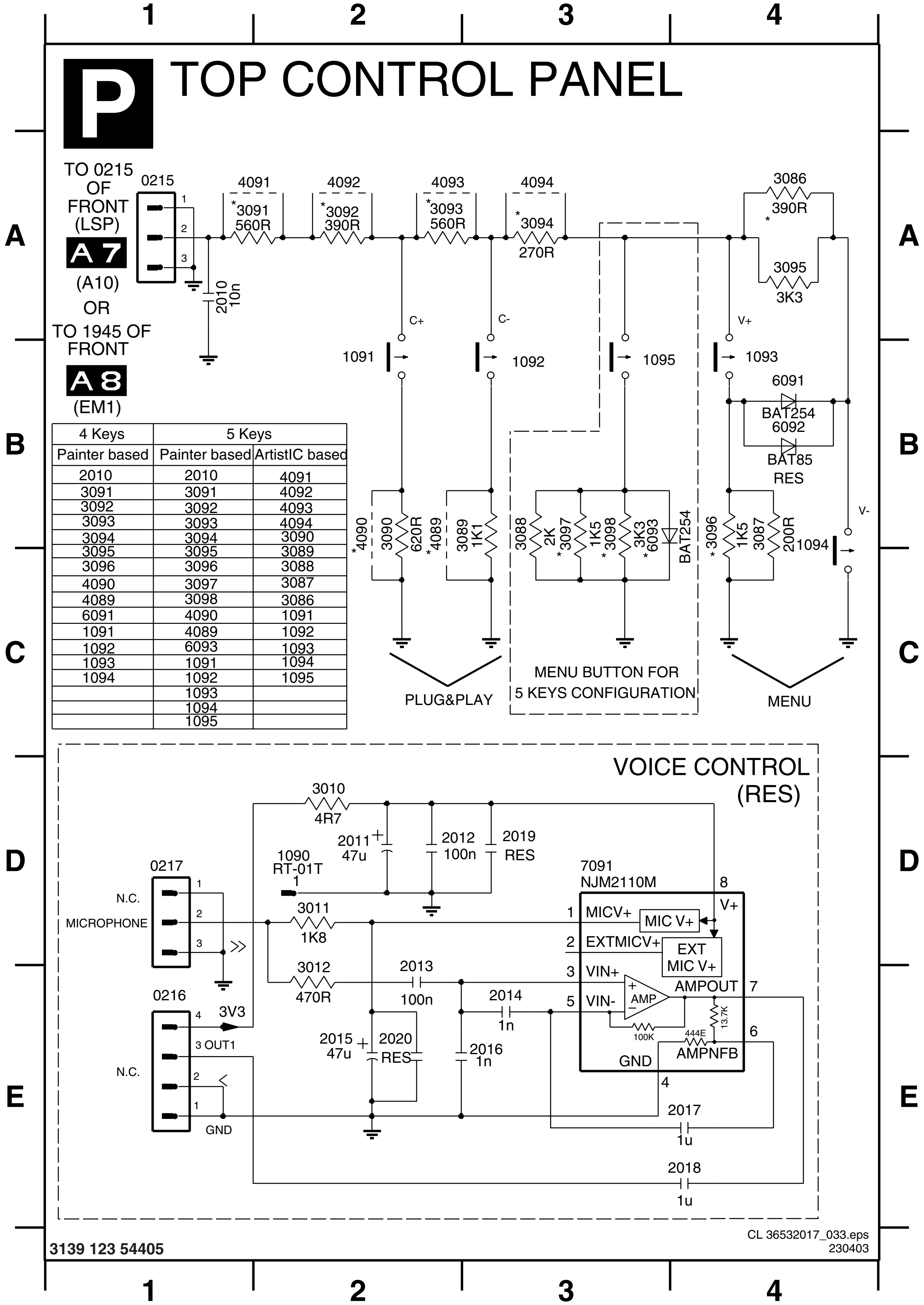
Top Control Panel (FL11 Styling) (Top Side)


PHILIPS
1703
0346
1704
PHILIPS
1705
1702
0345
1701
CL 26532041_056.eps 180402

Top Control Panel (FL11 Styling) (Bottom Side)


4004
3011
4002
3010
4003
3009
3008
4001
3012
4005
4006
3013
3999
6005
3006
3005
3007
3004
3003
3002
3001
CL 26532041_057.eps 180402

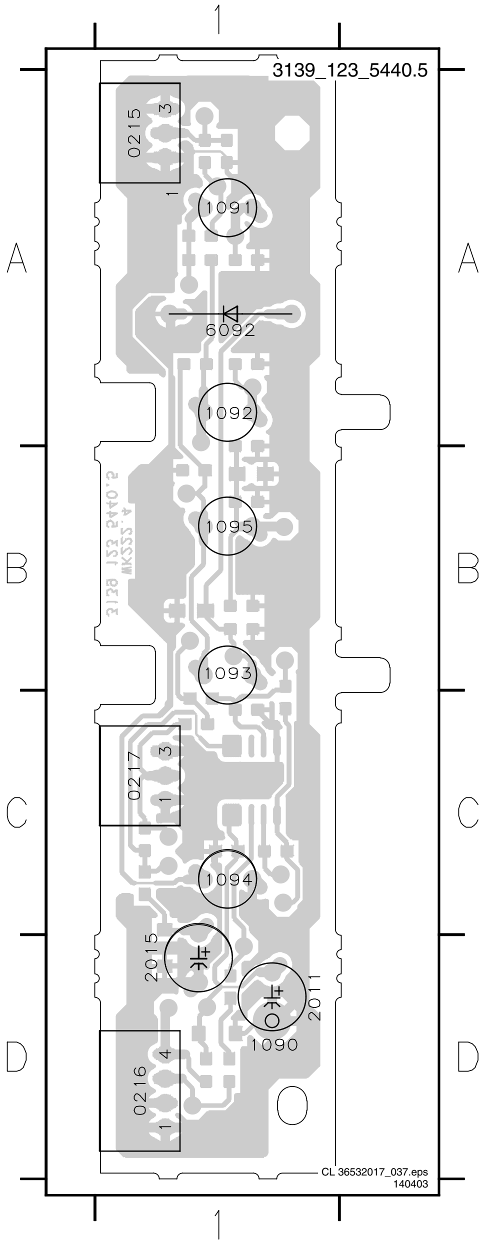
Top Control Panel (PV2 Styling)


1
2
3
4
A
B
C
D
E
P
TOP CONTROL PANEL
TO 0215 OF FRONT (LSP)
A7
(A10)
OR
TO 1945 OF FRONT
A8
(EM1)
0215
4091
3091 560R
4092
3092 390R
4093
3093 560R
4094
3094 270R
3086 390R
3095 3K3
2010 10n
C+
C-
V+
1091
1092
1095
1093
6091 BAT254
6092 BAT85
RES
V-
4090
3090 620R
4089
3089 1K1
3088 2K
3097 1K5
3098 3K3
6093 BAT254
3096 1K5
3087 200R
1094
PLUG&PLAY
MENU BUTTON FOR 5 KEYS CONFIGURATION
MENU
VOICE CONTROL (RES)
3010 4R7
2011 47u
2012 100n
2019 RES
1090 RT-01T
7091 NJM2110M
0217
N.C.
MICROPHONE
3011 1K8
3012 470R
2013 100n
2014 1n
2016 1n
2015 47u
2020 RES
MICV+
MIC V+
EXTMICV+
EXT MIC V+
VIN+
VIN-
AMP
AMPOUT
AMPNFB
GND
V+
100K
444E
13.7K
0216
3V3
OUT1
N.C.
GND
2017 1u
2018 1u
3139 123 54405
CL 36532017_033.eps
230403

4 Keys	5 Keys	
Painter based	Painter based	ArtistIC based
2010	2010	4091
3091	3091	4092
3092	3092	4093
3093	3093	4094
3094	3094	3090
3095	3095	3089
3096	3096	3088
4090	3097	3087
4089	3098	3086
6091	4090	1091
1091	4089	1092
1092	6093	1093
1093	1091	1094
1094	1092	1095
	1093	
	1094	
	1095	

0215	**A1**
0216	**E1**
0217	**D1**
1090	**D2**
1091	**B2**
1092	**B3**
1093	**B4**
1094	**B4**
1095	**B3**
2010	**A1**
2011	**D2**
2012	**D2**
2013	**E2**
2014	**E3**
2015	**E2**
2016	**E3**
2017	**E4**
2018	**E4**
2019	**D3**
2020	**E2**
3010	**D2**
3011	**D2**
3012	**E2**
3086	**A4**
3087	**B4**
3088	**B3**
3089	**B3**
3090	**B2**
3091	**A1**
3092	**A2**
3093	**A2**
3094	**A3**
3095	**A4**
3096	**B4**
3097	**B3**
3098	**B3**
4089	**B2**
4090	**B2**
4091	**A2**
4092	**A2**
4093	**A2**
4094	**A3**
6091	**B4**
6092	**B4**
6093	**B3**
7091	**D3**

Layout Top Control Panel (PV2 Styling) (Top Side)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D
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1095
1093
0217
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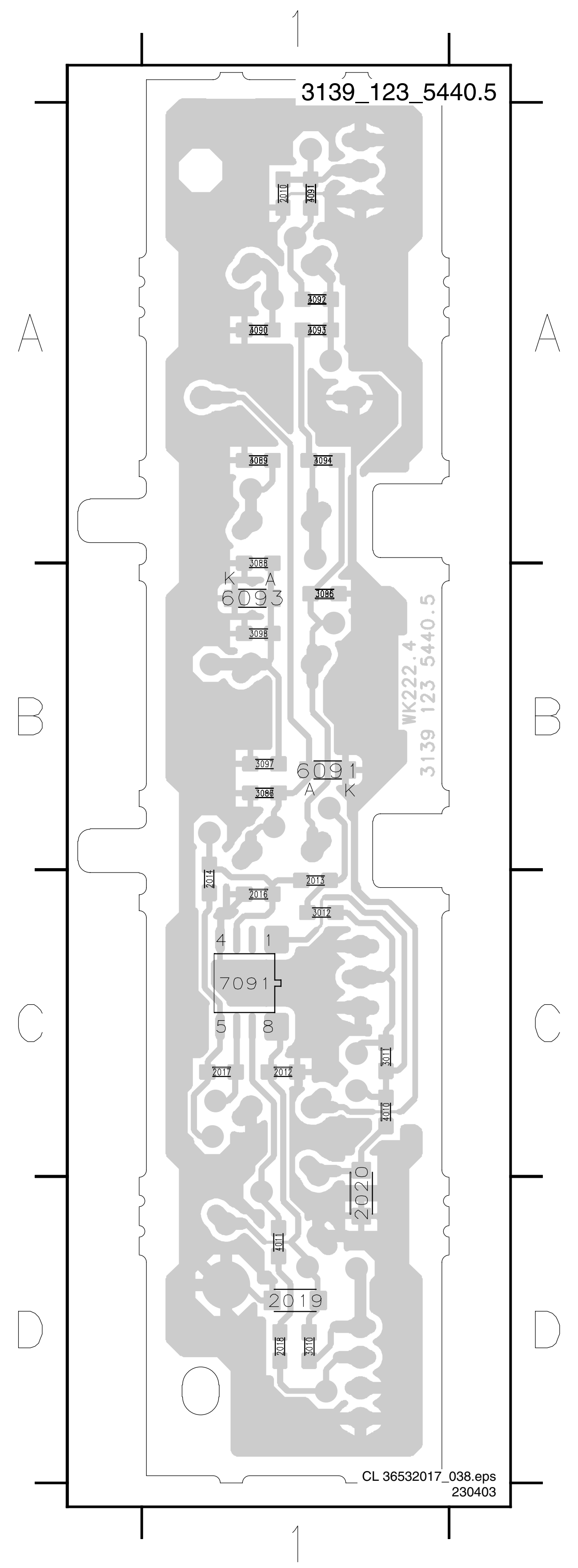
2015
2011
1090
0216
CL 36532017_037.eps
140403

0215	A1
0216	D1
0217	C1
1090	D1
1091	A1
1092	A1
1093	B1
1094	C1
1095	B1
2011	D1
2015	D1
6092	A1

Layout Top Control Panel (PV2 Styling) (Bottom Side)

2010	A1
2012	C1
2013	C1
2014	C1
2016	C1
2017	C1
2018	D1
2019	D1
2020	D1
3010	D1
3011	C1
3012	C1
3086	B1
3087	B1
3088	A1
3089	A1
3090	A1
3091	A1
3092	A1
3093	A1
3094	A1
3095	B1
3096	B1
3097	B1
3098	B1
4010	C1
4011	D1
4089	A1
4090	A1
4091	A1
4092	A1
4093	A1
4094	A1
6091	B1
6093	B1
7091	C1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D
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6091
A
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8
2020
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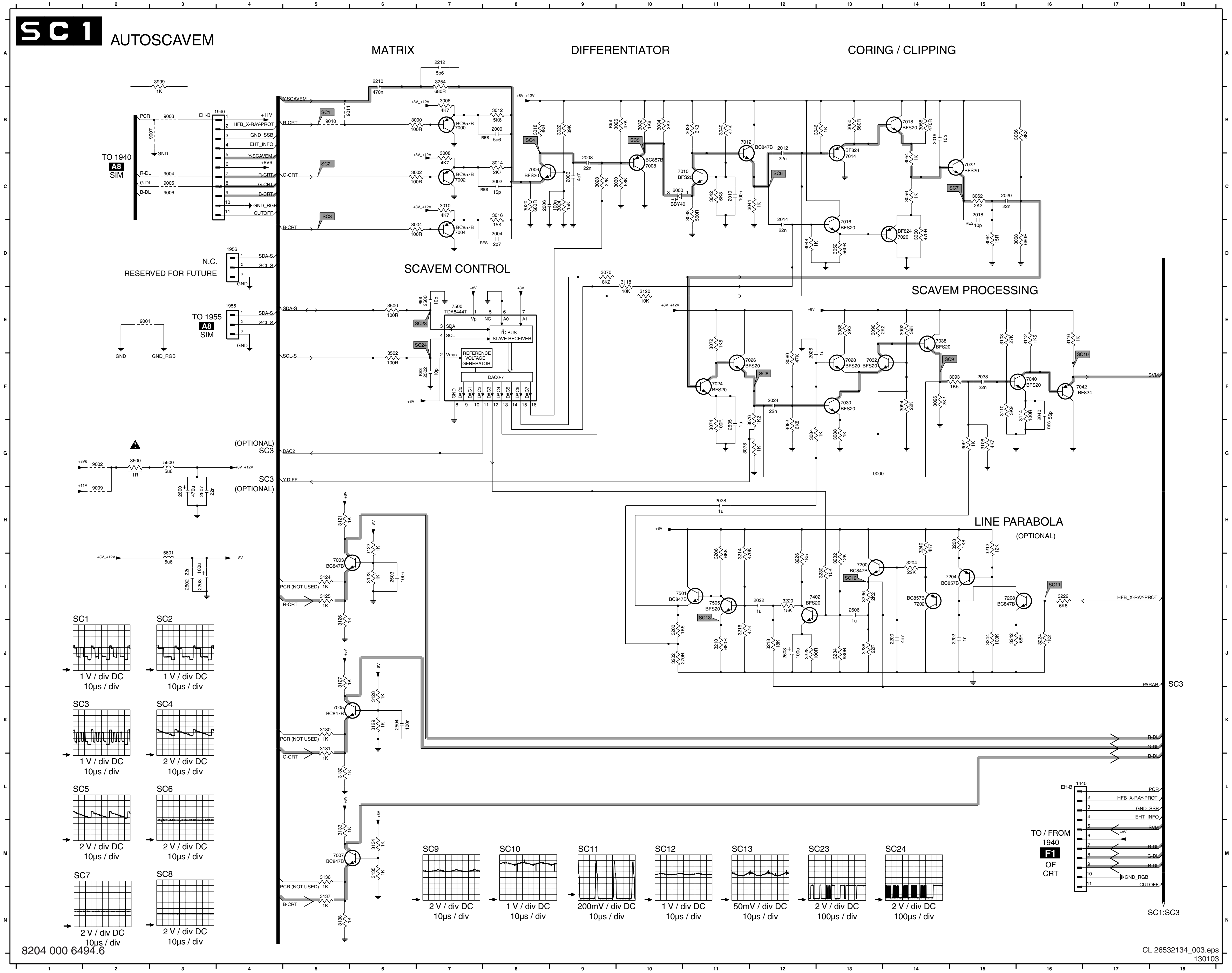
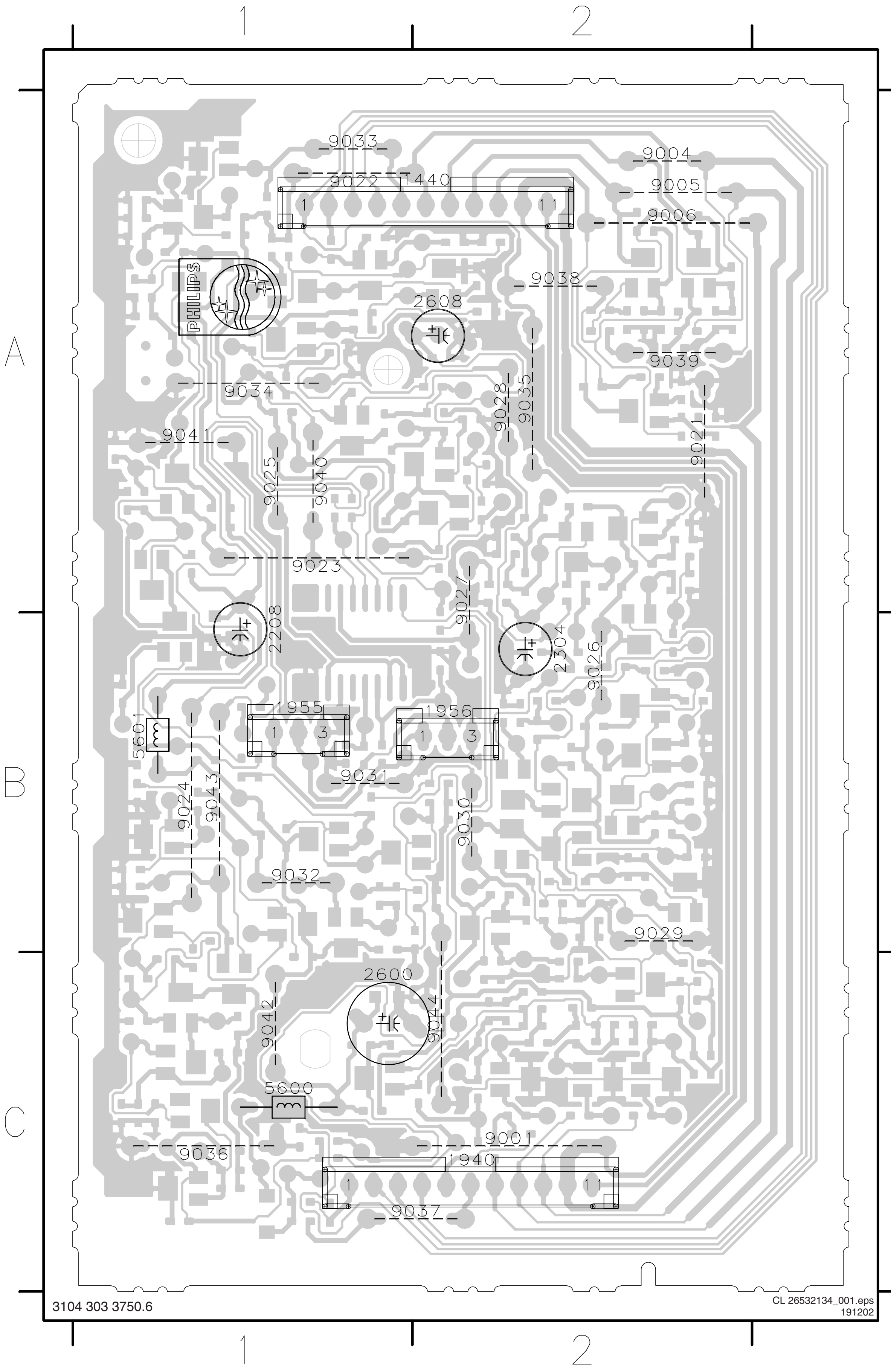
CL 36532017_038.eps
230403

Auto SCAVEM Panel


SC1 AUTOSCAVEM
MATRIX
DIFFERENTIATOR
CORING / CLIPPING
SCAVEM CONTROL
SCAVEM PROCESSING
LINE PARABOLA
(OPTIONAL)
TO 1940
A8
SIM
N.C.
RESERVED FOR FUTURE
TO 1955
A8
SIM
TDA8444T
I²C BUS SLAVE RECEIVER
REFERENCE VOLTAGE GENERATOR
DAC0-7
(OPTIONAL) SC3
SC3 (OPTIONAL)
TO / FROM 1940
F1
OF CRT
SC1:SC3
SC1 1 V / div DC 10µs / div
SC2 1 V / div DC 10µs / div
SC3 1 V / div DC 10µs / div
SC4 2 V / div DC 10µs / div
SC5 2 V / div DC 10µs / div
SC6 2 V / div DC 10µs / div
SC7 2 V / div DC 10µs / div
SC8 2 V / div DC 10µs / div
SC9 2 V / div DC 10µs / div
SC10 1 V / div DC 10µs / div
SC11 200mV / div DC 10µs / div
SC12 1 V / div DC 10µs / div
SC13 50mV / div DC 10µs / div
SC23 2 V / div DC 100µs / div
SC24 2 V / div DC 100µs / div
8204 000 6494.6
CL 26532134_003.eps
130103

1440	L17
1940	B4
1955	E4
1956	D4
2000	B8
2002	C8
2003	C9
2004	D8
2006	C8
2008	C9
2010	C11
2012	B12
2014	D12
2016	B14
2018	C15
2020	C15
2022	I12
2024	F12
2026	F12
2028	H11
2038	F15
2040	F16
2200	J14
2202	J15
2208	I3
2210	A6
2212	A7
2500	E7
2502	F7
2503	I6
2504	K6
2600	H3
2602	I3
2605	G11
2606	I13
2607	H3
2608	J12
3000	B7
3002	C7
3004	D7
3006	B7
3008	C7
3010	C7
3012	B8
3014	C8
3016	C8
3018	B8
3020	C8
3022	B9
3024	C9
3026	B10
3028	C9
3030	C10
3032	B10
3034	B10
3036	B11
3038	C11
3040	B11
3042	C11
3044	C12
3046	B13
3048	D12
3050	B13
3052	D13
3054	C14
3056	C14
3058	B14
3060	D14
3062	C15
3064	D15
3066	B16
3068	D16
3070	D9
3072	E11
3074	G11
3076	G12
3078	G12
3080	F12
3082	G12
3084	G12
3086	E13
3088	G13
3090	E13
3091	G15
3092	E14
3093	F15
3094	F14
3096	F14
3106	G15
3108	E15
3110	F15
3112	E16
3114	F16
3116	E16
3118	D10
3120	E10
3121	H5
3122	H6
3123	I6
3124	I5
3125	I5
3126	J5
3127	J5
3128	K6
3129	K6
3130	K5
3131	K5
3132	L5
3133	M5
3134	M6
3135	M6
3136	M5
3137	N5
3138	N5
3200	J10
3202	J10
3204	I14
3206	I11
3208	H15
3210	J11
3212	H15
3214	I11
3216	J11
3218	J12
3220	I12
3222	I16
3224	J16
3226	I12
3228	J12
3230	I13
3232	I13
3234	J13
3236	I13
3238	J13
3240	H14
3242	J15
3244	J15
3254	A7
3500	E6
3502	F6
3600	G2
3999	A3
5600	G3
5601	I3
6000	C10
7000	B7
7002	C7
7003	I5
7004	D7
7005	K5
7006	C8
7007	M5
7008	C10
7010	C10
7012	B11
7014	C13
7016	D13
7018	B14
7020	D14
7022	C15
7024	F11
7026	F11
7028	F13
7030	F13
7032	F13
7038	E14
7040	F16
7042	F16
7200	I13
7202	I14
7204	I15
7208	I15
7402	I13
7500	E7
7501	I11
7505	I11
9000	G13
9001	E2
9002	G2
9003	B3
9004	C3
9005	C3
9006	C3
9007	B3
9009	H2
9010	B5
9011	B5
I690	B11

Layout Auto SCAVEM Panel (Top Side)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2
A
B
C
9033
9022
1440
9004
9005
9006
PHILIPS
2608
9038
9039
9034
9028
9035
9041
9025
9040
9021
9023
2208
9027
2304
9026
1955
1956
5601
9031
9024
9043
9030
9032
9029
2600
9042
9044
5600
9001
9036
1940
9037
3104 303 3750.6
CL 26532134_001.eps
191202

1440	A2
1940	C2
1955	B1
1956	B2
2208	B1
2304	B2
2600	C1
2608	A2
5600	C1
5601	B1
9001	C2
9004	A2
9005	A2
9006	A2
9021	A2
9022	A1
9023	A1
9024	B1
9025	A1
9026	B2
9027	A2
9028	A2
9029	B2
9030	B2
9031	B1
9032	B1
9033	A1
9034	A1
9035	A2
9036	C1
9037	C1
9038	A2
9039	A2
9040	A1
9041	A1
9042	C1
9043	B1
9044	C2

Layout Auto SCAVEM Panel (Bottom Side)

2000	C1
2002	C1
2003	C2
2004	C1
2006	C1
2008	C2
2010	C2
2012	C2
2014	B2
2016	B2
2018	B2
2020	B1
2022	A1
2024	B2
2026	A2
2028	A1
2038	A2
2040	A2
2200	A1
2202	A1
2210	C1
2212	C1
2300	B1
2400	A1
2410	B1
2412	B1
2414	B1
2416	B1
2418	C1
2420	B1
2422	C1
2424	B1
2500	B1
2502	B2
2503	A1
2504	A1
2602	B2
2603	B1
2604	A1
2605	B1
2606	A2
2607	C2
3000	C1
3002	C1
3004	C1
3006	C1
3008	C1
3010	C1
3012	C1
3014	C1
3016	C1
3018	C2
3020	C1
3022	C1
3024	C1
3026	C2
3028	C2
3030	C2
3032	C2
3034	C2
3036	C2
3038	C2
3040	C2
3042	C2
3044	C2
3046	C2
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3050	C2
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3108	A2
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3234	A2
3236	A2
3238	A2
3240	A2
3242	A1
3244	A1
3254	C1
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3302	B1
3304	B1
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3408	A1
3410	A1
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3436	B1
3438	B1
3440	B1
3442	B1
3444	C1
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3460	C1
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3502	B2
3600	C2
3999	B2
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7000	C1
7002	C1
7003	A1
7004	C1
7005	A1
7006	C2
7007	A1
7008	C2
7010	C2
7012	C2
7014	B2
7016	C2
7018	B2
7020	B2
7022	C2
7024	B1
7026	B2
7028	A2
7030	B2
7032	A2
7038	A2
7040	A2
7042	A2
7200	A2
7202	A2
7204	A2
7208	A2
7300	B1
7400	A1
7402	A2
7408	B1
7410	B1
7412	B1
7414	B1
7416	B1
7418	B1
7420	C1
7422	B1
7500	A2
7501	A1
7502	A1
7503	B1
7504	A1
7505	A1
9000	B2
9002	C2
9003	C2
9007	C2
9009	C2
9010	C1
9011	C1
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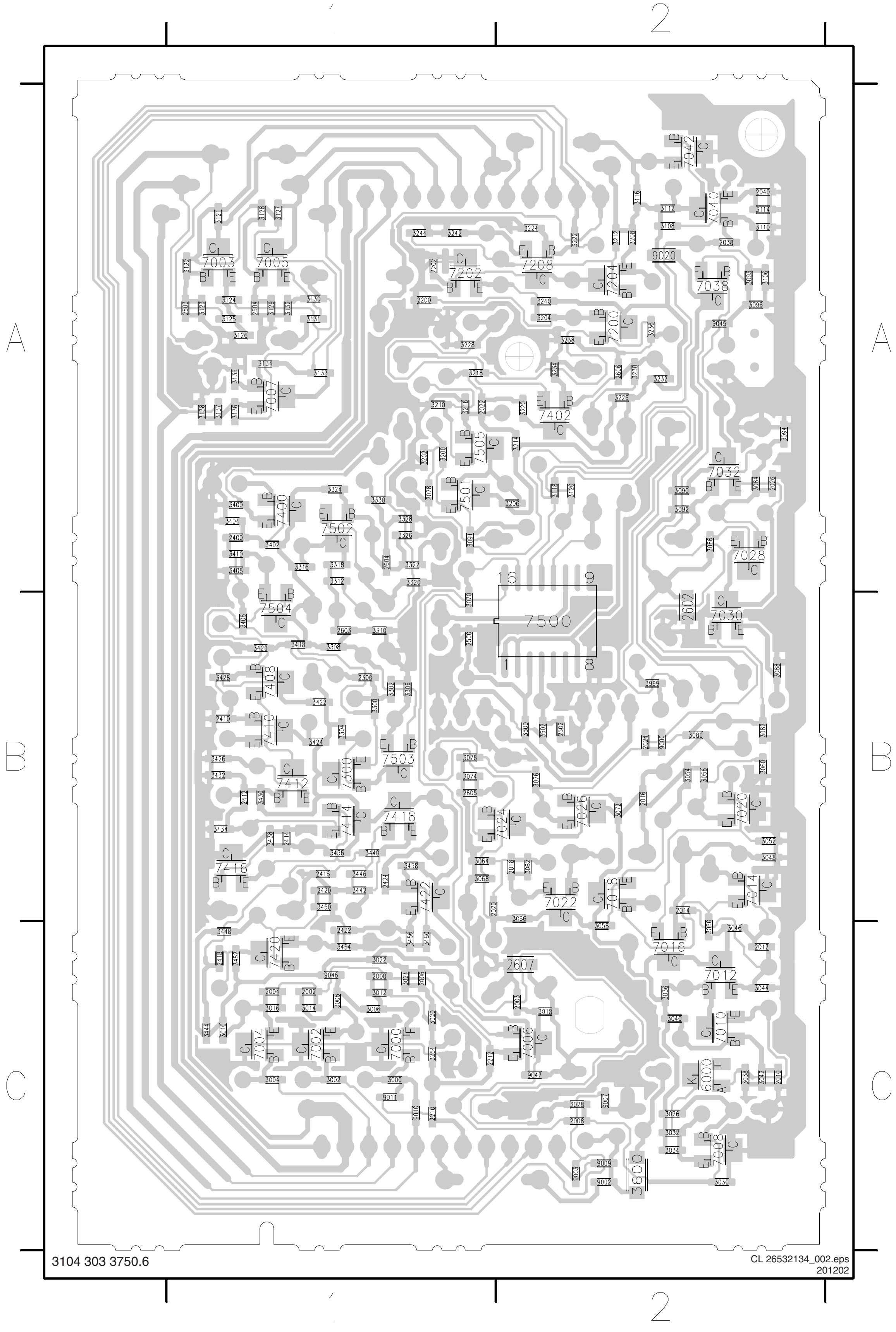
9045	A2
9046	C1
9047	C2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7400
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7501
7028
7500
7504
2602
7030
7408
7410
7503
7412
7300
7418
7414
7024
7026
7020
7416
7422
7022
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7002
7000
7006
7010
6000
7008
3600
3104 303 3750.6
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201202

8. Electrical Alignments

Index of this chapter

1. General alignment conditions
2. Hardware alignments
3. Software alignments
4. Option settings

8.1 General Alignment Conditions

8.1.1 Start Conditions

Perform all electrical adjustments under the following conditions:

- Power supply voltage: $230\ V_{AC}$/50 Hz (± 10 %).
- Connect the set to the mains via an isolation transformer with low internal resistance.
- Allow the set to warm up for approximately 20 to 30 minutes.
- Measure the voltages and waveforms in relation to chassis ground (with the exception of the voltages on the primary side of the power supply).
  Caution: never use the cooling fins/plates as ground.
- Test probe: $Ri > 10\ M\Omega$, $Ci < 20\ pF$.
- Use an isolated trimmer/screwdriver to perform the alignments.

Perform all electrical adjustments with the following start settings (for all CRTs):

- Set LIGHT SENSOR "off", by setting ACTIVE CONTROL to "off" with the remote control.
- Set CONTRAST to "75", BRIGHTNESS to "42" and COLOUR to "54" (via PICTURE menu).
- Set COLOUR ENHANCEMENT to "off" (via PICTURE menu).
- Set DIGITAL OPTIONS to "Pixel Plus" (via PICTURE menu), unless otherwise stated (for sets without "Pixel Plus" (= Eagle), set to "Natural Motion").
- Set DYNAMIC CONTRAST to "off" (via PICTURE menu).
- Set CATHODE DRIVE at "15" (via SAM - Alignments - General - Drive - Cathode).

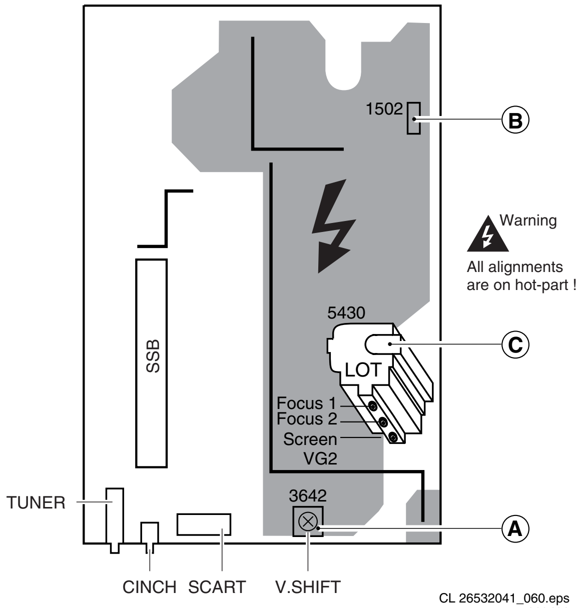
8.1.2 Adjustment Sequence

Use the following adjustment sequence:

1. Set the correct TV-set "options" (after storing, restart the set!).
2. Rough adjustment of "Vg2" and "Focus".
3. Rough adjustment of "Geometry".
4. Allow the set to warm up.
5. Accurate adjustment of "Vg2" and "Focus".
6. Accurate adjustment of "Geometry".
7. Software alignments (cut-off, cathode drive, peak white, white drive, etc).

8.2 Hardware Alignments

Note: The Service Alignment Mode (SAM) is described in chapter 5 of the Service Manual. Menu navigation is done with the "CURSOR UP, DOWN, LEFT or RIGHT" keys of the remote control (RC) transmitter.



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110402

Figure 8-1 Top-view LSP

8.2.1 Vg2 Adjustment

In the frame-blanking period of the R, G, and B signals applied to the CRT, the "HOP" video processor inserts a measuring pulse with different DC levels. Measure the black level pulse during the vertical flyback at the RGB cathodes of the CRT.

1. Go, via the MENU key, to the normal user menu, select "PICTURE", and set "CONTRAST" and "BRIGHTNESS" to "0".
2. Activate the SAM.
3. Connect the RF output of a pattern generator to the antenna input. Test pattern is a "black" picture (blank screen on CRT without any OSD info).
4. Set the channel of the oscilloscope to 20 V/div and the time base to 20 us/div. Use external triggering on the vertical pulse
   (**caution**: use a trigger point at the "**cold**" side!).
5. Ground the scope at the CRT panel ("**cold**" side) and connect a 10:1 probe to one of the cathodes of the picture tube socket (see diagram F).
6. Measure the cut-off pulse during first full line after the frame blanking. You will see two pulses, one being the cut-off pulse and the other being the white drive pulse. Choose the one with the lowest value; this is the cut-off pulse.
7. Select the cathode with the highest V_dc value for the alignment. Adjust the V_CUTOFF of this gun with the SCREEN (lower) potentiometer on the LOT to the correct DC-value (tolerance is +/- 3 V_dc):
   - 28 inch: 160 V.
   - 29 inch: 160 V.
   - 32 inch (LPD - Philips): 160 V.
   - 32 inch (MEC - Panasonic): 170 V.
   - 36 inch: 170 V.
8. Restore "CONTRAST" to "75" and "BRIGHTNESS" to "42".

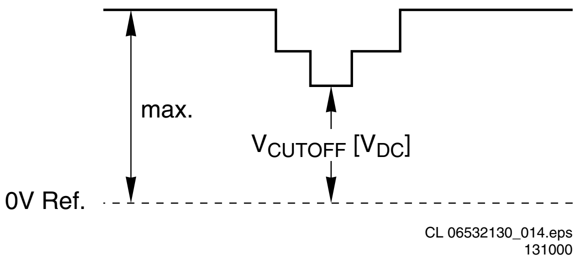

Figure 8-2 Waveform Vg2 alignment

8.2.2 Focus alignment

Notes:

- Tune the set to a "circle with crosshatch" test pattern (use an external video pattern generator).
- Choose picture mode "NATURAL" with the "SMART PICTURE" button on the remote control transmitter.
- **ELDOR** LOT outline:
  - Focus 1 (F1) = Static alignment (black wire).
  - Focus 2 (F2) = Dynamic alignment (red wire).

Focus method for Philips 32 inch tube with bleeder gun

You can recognize a CRT with bleeder gun by its type number:

- W76ERF**052**X044= with bleeder gun
- W76ERF**042**X044= with standard gun.

You can also recognize it by the **ceramic** rectangular plate (this is the bleeder resistance) you will see inside the gun (viewed from above).

1. Start the alignment with the STATIC focus (upper potmeter) turned to the **left** and the DYNAMIC focus (middle potmeter) to the **right**.
2. Adjust the DYNAMIC focus until the horizontal lines at the centre of the screen have minimum width, without introducing a visible haze.
3. Adjust the STATIC focus until the vertical lines at the sides of the screen have minimum width, without introducing a visible haze.
4. Adjust the DYNAMIC focus until the horizontal lines at the centre of the screen have minimum width, without introducing a visible haze.
5. Check overall spot performance and repeat steps 3 and 4 to achieve the best result.

Focus method for all other tubes

1. Start with the STATIC and DYNAMIC focus potentiometers on the LOT at **midway**.
2. Adjust the STATIC focus until the vertical lines at the sides of the screen have minimum width, without introducing a visible haze.
3. Adjust the DYNAMIC focus until the horizontal lines at the centre of the screen have minimum width, without introducing a visible haze.
4. Check overall spot performance and repeat steps 2 and 3 to achieve the best result: a compromise between minimal visible haze at the middle of the screen and sharp lines at the edges of the screen.

8.3 Software Alignments

8.3.1 Introduction

With the software alignments, it is possible to align the Geometry, White Tone, and Tuner IF settings.
Put the set in the SAM (see chapter 5). The SAM menu will now appear on the screen. Select, via **ALIGNMENTS**, one of the sub-menus. They are explained below in the sequence of the sub-menus.

Notes:

- All changes to menu items and alignments are stored automatically, except the option codes. They must be stored manually.
- If the OPTION CODES have been changed **and stored**, the set has to be switched "OFF" and "ON" using the mains switch to activate the new settings (when switching via Standby, the option code settings are NOT read by the microprocessor).
- If an empty EAROM (permanent memory) is detected, all settings are set to pre-programmed default values.

8.3.2 GENERAL

VG2 TEST PATTERN

In this sub-menu, you can turn "On" the OSD feedback for the Vg2 alignment (see chapter 8.2.1).

ADJUST PEAK WHITE LIMITER

Fixed setting: "9".

EHT COMPENSATION

Enter value "9" for the 28, 29 and 32 inch picture tubes
Enter value "10" for the 36 inch picture tubes.

SOFT CLIPPER

Fixed setting: Pwl + 0%

LUMA GAIN

Fixed setting: 2.

IF AFC

Supply, via an external video generator (e.g. PM5518), a TV signal with strength of at least 1 mV and a frequency of 475.25 MHz. Use system BG if possible, otherwise match the system of your generator with the received signal in the set.

Alignment procedure:

1. Go to the user "Installation" menu.
2. Select "Manual Installation".
3. Tune the TV-set to the system and frequency described above via "Search" - "475" - "OK".
4. If the frequency, showed in the line "Fine tune", is between 475.18 MHz and 475.31 MHz, you **do not** need to re-adjust the "IF AFC".
5. If not, adjust the frequency in the "Fine tune" line to 475.25 MHz and "Store" the program (this is **very important** because this will disable the AFC algorithm).
6. Now go to the SAM and select ALIGNMENTS - GENERAL - IF AFC.
7. During the IF AFC parameter adjustment, one can see OSD feedback in the top of the screen.
8. This OSD feedback can give 4 kind of messages:

Table 8-1 OSD feedback of AFC alignment

AFC-window	AFC-frequency vs. reference
Out	High
In	High
In	Low
Out	Low

1. The first item (IN or OUT) informs you whether you are in or out the AFC-window.
2. The second item (HIGH or LOW) informs you about whether the AFC-frequency is too high or too low.
3. First, you must align the IF AFC parameter such that you come into the AFC-window (= IN).
4. Then you must look for the point where the IF AFC parameter changes from HIGH to LOW. This level is the value you are looking for.

5. After adjustment, STORE the value.
6. Now return to the user "Installation" menu.
7. Select "Manual Installation" - "Search" - "475" - "OK" and "Store". This will set the AFC "ON" again.

Service tip: If you do not trust the frequency accuracy of your service generator, connect it to a "good" TV set and check it with the "Fine tune"-line.

IF LPRIME AFC

Use the same procedure as for the IF AFC alignment, but set the video generator to SECAM L/L' (only necessary for countries that have or can receive this system).

TUNER AGC

1. Set the external pattern generator to a colour bar video signal and connect the RF output to the aerial input. Set the amplitude to 10 mV and set the frequency to 475.25 MHz.
2. Connect a DC multimeter between pin 1 and the shielding of the Tuner (item 1200 on the LSP).
3. Adjust the TUNER AGC value (default value is 25) with the LEFT/RIGHT cursor keys until the voltage at pin 1 of the tuner lies between 3.8 and 2.3 V.
4. STORE the alignment.

TUNER AGC TUNER 2

Use the same procedure as described above (under TUNER AGC) with the set switched to the DW source. Measure on pin 1 of the DW Tuner (this is only applicable for sets with 2-tuner DW execution).

BLEND INTENSITY

Use this alignment when you replace the microcontroller or the HOP. It aligns the level of transparency of the menu-picture blended into the main-picture.
Position the "BRIGHTNESS", "CONTRAST", and "COLOUR" setting in the middle position (picture-menu).

1. Apply a signal with a 100 % white video-pattern.
2. Connect an oscilloscope to pin 8 of connector 1298 of the CRT panel and measure the Red output level.
3. Align the BLEND INTENSITY parameter such, that the blended signal is 65 % of the black-white amplitude. In practice, this is about 1.3 V (blended signal) versus 2 V (full white signal).
4. The parameter can be adjusted in between "0" and "31".

8.3.3 DRIVE

Method 1 (with colour analyser):

1. Select TEST PATTERN and turn it ON. During the following alignments, you will get a white block in middle of the screen.
2. Select CATHODE and adjust the set to the correct light output. This setting depends on the picture tube size and brand. See table "Cathode parameter" for the colour analyser readings.
3. Select a COLOUR TEMPERATURE (COOL, NORMAL, or WARM).
4. Adjust the white level (via RED, GREEN, and BLUE) according to the values in table "White levels".

Table 8-2 Cathode parameter

CRT	Light output (cd/m^2)
28" RF WS	400 (Mk1), 450 (Mk2)
29" RF 4:3	400
32" RF WS	380 (LPD), 370 (MEC)
36" RF WS	330

Table 8-3 White levels

ColourTemp. (K)	Cool (10200)	Normal (8700)	Warm (6500)
X	280	289	313
Y	287	299	329

Method 2 (without colour analyser):

Without having a colour-analyser, one can set some parameters. This is the next best solution. The setting-parameters are average values coming from production (statistics).

1. Select CATHODE and enter the value "15" (for all picture tubes).
2. Select a COLOUR TEMPERATURE (COOL, NORMAL, or WARM).
3. Set the RED, GREEN, and BLUE parameters according to the (delta) values in table "Tint settings".
4. RED BL OFFSET: herewith the black level can be aligned very precise (default value is "7").
5. GREEN BL OFFSET: herewith the black level can be aligned very precise (default value is "7").

Table 8-4 Tint settings

	Δ Cool	Normal	Δ Warm
R	-1	37	+3
G	0	30	0
B	+4	31	-10

8.3.4 LUM. DEL. (Luminance Delay)

With this alignment, you place the luminance information exactly on the chrominance information (brightness is pushed onto the colour). Use a colour bar/grey scale pattern as test signal.

- **LUM. DELAY PAL BG:** Apply a PAL BG colour bar/grey scale pattern as a test signal. Adjust this parameter until the transients of the colour part and black and white part of the test pattern are at the same position. Default value = 9.
- **LUM. DELAY PAL I:** Apply a PAL I colour bar/grey scale pattern as a test signal. Adjust this parameter until the transients of the colour part and black and white part of the test pattern are at the same position. Default value = 9.
- **LUM. DELAY SECAM:** Apply a SECAM colour bar/grey scale pattern as a test signal. Adjust this parameter until the transients of the colour part and black and white part of the test pattern are at the same position. Default value = 11.
- **LUM. DELAY BYPASS:** apply a NTSC colour bar/greyscale pattern as a test signal. Adjust this value until the transients of the colour and black & white part of the test area are at the same position. Default value = 10.

8.3.5 GEO-NOR (Normal Geometry)

Note: Use for all geometry alignments an **external** pattern generator with a geometry pattern (e.g. crosshatch).

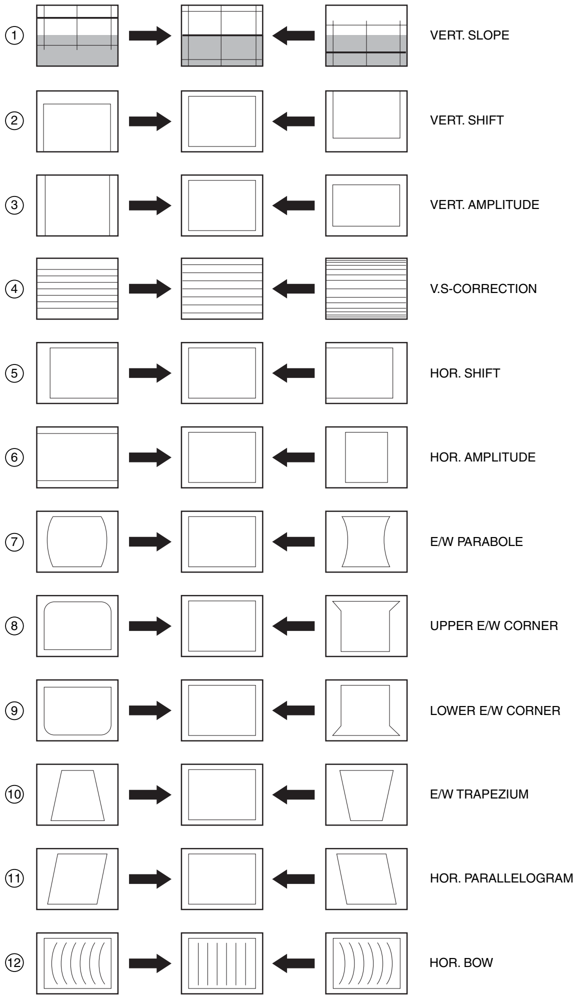

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Figure 8-3 Geometry Alignments

Service tip: When the set is equipped with a rotation coil, use this menu item to check its correct alignment. If alignment is not correct, go to the INSTALLATION menu, choose SETUP, press OK, and choose PICTURE TILT. With the use of a crosshatch test pattern, align it to a correct horizontal picture.

V. SLOPE

Align the zero crossing of the frame deflection to the mechanical middle of the picture tube.

1. First set the start conditions for 16:9 sets: V. S-CORRECTION value on "16" for the 28 inch, "32" for the 29 inch, "16" for the 32 inch (LPD - Philips tube), "27" for the 32 inch (MEC - Panasonic tube), or "20" for the 36 inch sets. Position the boundary-stripes of the test pattern on the edges of the picture tube.
2. Align V. SLOPE (during alignment, the lower half of the picture is blanked) such, that the middle line of the test pattern is matched with the edge of the pattern transient in the middle of the picture.
3. Repeat the alignment if necessary.

V. SHIFT AND V. AMPLITUDE (vertical alignment)

Align the vertical centre and height of the picture.

1. Use V. AMPLITUDE to align the vertical amplitude so that the entire test pattern is visible.
2. Set V. SHIFT to value "32".
3. Connect a voltmeter (V_dc) between R3624 and "hot" ground.
4. Adjust the DC voltage to "0" with potmeter R3642 (see figure 8-1).
5. Use V. SHIFT again to align the test pattern roughly vertically in the middle.
6. Repeat the alignment if necessary.

V. S-CORRECTION

Align for equal blocks on top, middle, and bottom of the picture tube.

Align V. S-CORRECTION such that a block at the top (or bottom) of the picture has the same height as a block in the middle of the picture.

H. SHIFT AND H. AMPLITUDE (horizontal alignment)

1. Use H. AMPLITUDE to align the horizontal amplitude so that the entire test pattern is visible.
2. Use H. SHIFT to align the picture horizontally in the middle.
3. Repeat the H. AMPLITUDE alignment if necessary.

Note: In case the horizontal linearity in wide-screen mode is out of tolerance, add a "DC-shift correction" panel (3104 328 06230) to connector 1419 of the DAF-panel [diagram I]. On the DC-shift panel, cut diode **6433** for correction to the right or diode **6432** for correction to the left.
Caution: Be sure to switch "OFF" the set first. *Never* plug in a not pre-aligned module in a playing set!

EAST/WEST ALIGNMENT

1. Use EAST/WEST PARABOLA to align the vertical lines until straight.
2. Use UPPER EAST/WEST CORNER to align the vertical lines in the upper corners until straight.
3. Use LOWER EAST/WEST CORNER to align the vertical lines in the lower corners until straight.
4. Use EAST/WEST TRAPEZIUM to align for a rectangular.
5. Use HORIZONTAL BOW to correct the E/W parabola such, that it becomes symmetrical.
6. Use HORIZONTAL PARALLELOGRAM to align for straight vertical lines if necessary.

Repeat steps 1 to 6 if necessary.

8.3.6 GEO-4:3 (4:3 geometry alignment in 16:9 sets)

1. Use EAST/WEST PARABOLA to align the vertical lines until straight.
2. Use UPPER EAST/WEST CORNER to align the vertical lines in the upper corners until straight.
3. Use LOWER EAST/WEST CORNER to align the vertical lines in the lower corners until straight.

8.3.7 GEO-SW (Super Wide geometry alignment in 16:9 sets)

You only need to set the following values (if the normal geometry alignment has been performed correctly):

1. V. S-CORRECTION: enter value of the NORMAL GEOMETRY alignment.
2. H. AMPLITUDE: enter value of the NORMAL GEOMETRY alignment subtracted by "1".
3. EAST/WEST PARABOLA: enter value of the NORMAL GEOMETRY alignment.

8.3.8 GEO-100HZ (Digital Scan geometry alignment)

As all alignments are done in Pixel Plus mode (at 75 Hz), the 100 Hz mode needs an extra alignment:

- Select GEO-100HZ. The set automatically switches to 100 Hz mode.
- V. SLOPE: match the middle line of the test pattern with the upper edge of this blanking picture.
- After the alignment, return to the previous menu. The set automatically returns to "Pixel Plus" mode.

8.4 Option Settings

8.4.1 Introduction

The microprocessor communicates with a large number of I2C ICs in the set. To ensure good communication and to make digital diagnosis possible, the microprocessor has to know which ICs to address. The presence / absence of these specific ICs (or functions) is made known by the option codes.

- You can set the "hardware related" options via the SAM - ALIGNMENTS - OPTIONS or OPTION NUMBERS menu.
- You can set the "software related" options via the SAM - DEALER OPTIONS menu.

Notes:

- After changing the option(s), save them with the STORE command.
- The new option setting is only active after the TV is switched "off" and "on" again with the AC power switch (the EAROM is then read again).

8.4.2 DEALER OPTIONS

Select this sub-menu to set the initialisation codes (= options) of the set via text menu's.

Menu name	Subjects	Options	Physically in set
Personal Options	Picture Mute	Yes	Video mute active when there is no signal detected
		No	Noise when there is no signal detected
	Virgin Mode	Yes	TV starts up with language selection menu
		No	TV does not start up with language selection menu
	Auto Store Mode (for EU)	None	Auto Store mode disabled (not in installation menu)
		PDC-VPS	Auto Store mode via ATS (Automatic Tuning System) enabled
		TXT page	Auto Store mode via ACI (Automatic Channel Installation) enabled
		PDC-VPS-TXT	Auto Store mode via ATS or ACI enabled
	Txt Preference (for EU)	FLOF	Preference to FLOF (Full Level One Features) teletext
		TOP	Preference to TOP (Table Of Pages) teletext
Note: Above overview gives the menu items for all regions (EU/AP/US). The correct settings differs per region (see Option Numbers).			

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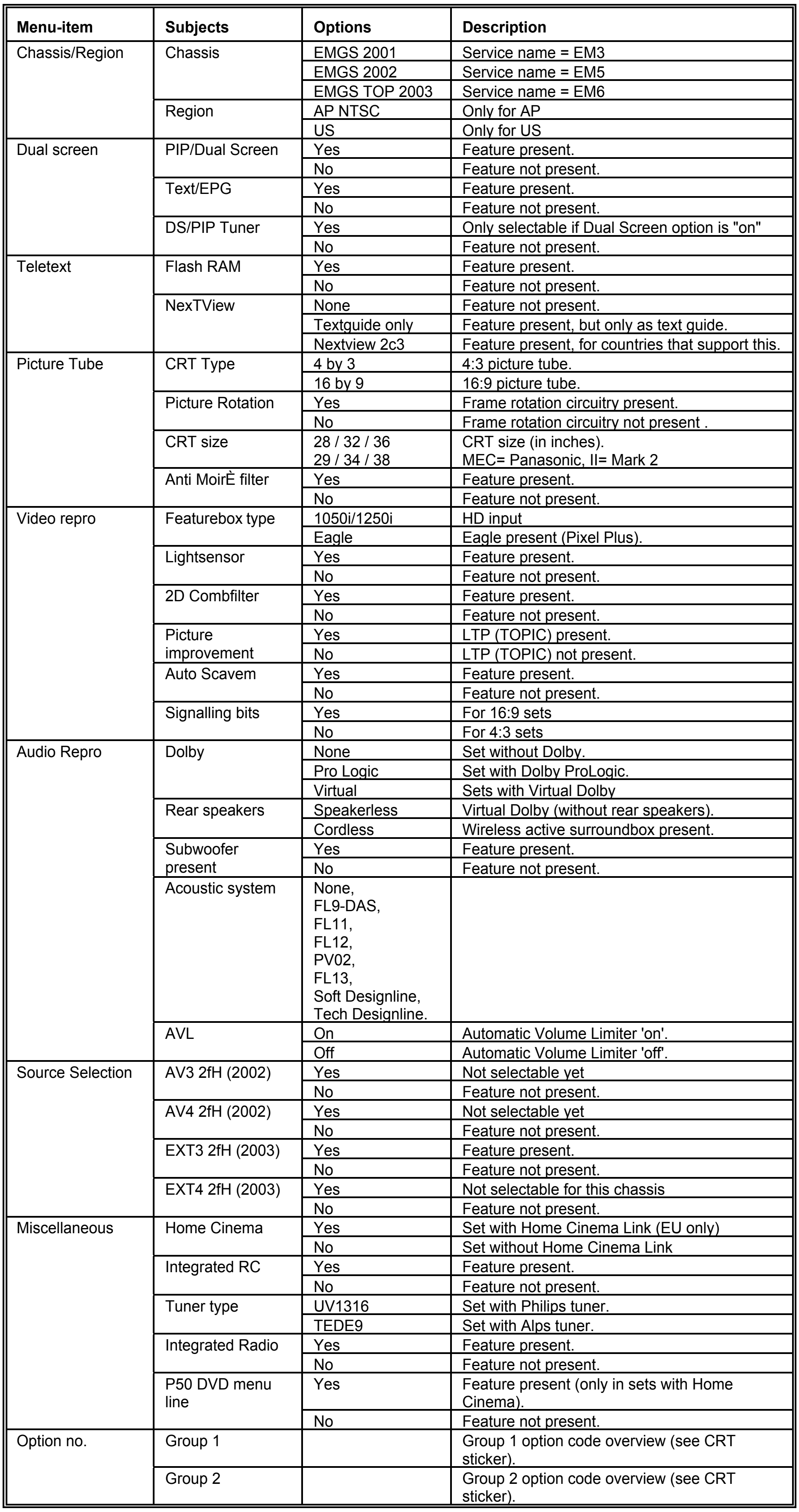
Figure 8-4 Dealer options overview

8.4.3 SERVICE OPTIONS

Select this sub-menu to set the initialisation codes (= options) of the set via text menu's.



Menu-item	Subjects	Options	Description
Chassis/Region	Chassis	EMGS 2001	Service name = EM3
		EMGS 2002	Service name = EM5
		EMGS TOP 2003	Service name = EM6
	Region	AP NTSC	Only for AP
		US	Only for US
Dual screen	PIP/Dual Screen	Yes	Feature present.
		No	Feature not present.
	Text/EPG	Yes	Feature present.
		No	Feature not present.
	DS/PIP Tuner	Yes	Only selectable if Dual Screen option is "on"
		No	Feature not present.
Teletext	Flash RAM	Yes	Feature present.
		No	Feature not present.
	NexTView	None	Feature not present.
		Textguide only	Feature present, but only as text guide.
		Nextview 2c3	Feature present, for countries that support this.
Picture Tube	CRT Type	4 by 3	4:3 picture tube.
		16 by 9	16:9 picture tube.
	Picture Rotation	Yes	Frame rotation circuitry present.
		No	Frame rotation circuitry not present .
	CRT size	28 / 32 / 36 29 / 34 / 38	CRT size (in inches). MEC= Panasonic, II= Mark 2
	Anti MoirÈ filter	Yes	Feature present.
		No	Feature not present.
Video repro	Featurebox type	1050i/1250i	HD input
		Eagle	Eagle present (Pixel Plus).
	Lightsensor	Yes	Feature present.
		No	Feature not present.
	2D Combfilter	Yes	Feature present.
		No	Feature not present.
	Picture improvement	Yes	LTP (TOPIC) present.
		No	LTP (TOPIC) not present.
	Auto Scavem	Yes	Feature present.
		No	Feature not present.
	Signalling bits	Yes	For 16:9 sets
		No	For 4:3 sets
Audio Repro	Dolby	None	Set without Dolby.
		Pro Logic	Set with Dolby ProLogic.
		Virtual	Sets with Virtual Dolby
	Rear speakers	Speakerless	Virtual Dolby (without rear speakers).
		Cordless	Wireless active surroundbox present.
	Subwoofer present	Yes	Feature present.
		No	Feature not present.
	Acoustic system	None, FL9-DAS, FL11, FL12, PV02, FL13, Soft Designline, Tech Designline.	
	AVL	On	Automatic Volume Limiter 'on'.
		Off	Automatic Volume Limiter 'off'.
Source Selection	AV3 2fH (2002)	Yes	Not selectable yet
		No	Feature not present.
	AV4 2fH (2002)	Yes	Not selectable yet
		No	Feature not present.
	EXT3 2fH (2003)	Yes	Feature present.
		No	Feature not present.
	EXT4 2fH (2003)	Yes	Not selectable for this chassis
		No	Feature not present.
Miscellaneous	Home Cinema	Yes	Set with Home Cinema Link (EU only)
		No	Set without Home Cinema Link
	Integrated RC	Yes	Feature present.
		No	Feature not present.
	Tuner type	UV1316	Set with Philips tuner.
		TEDE9	Set with Alps tuner.
	Integrated Radio	Yes	Feature present.
		No	Feature not present.
	P50 DVD menu line	Yes	Feature present (only in sets with Home Cinema).
		No	Feature not present.
Option no.	Group 1		Group 1 option code overview (see CRT sticker).
	Group 2		Group 2 option code overview (see CRT sticker).

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Figure 8-5 Option overview

8.4.4 OPT. NO. (Option numbers)

Select this sub menu to set all options at once (expressed in two long strings of numbers).

An option number (or option byte) represents a number of different options. When you change these numbers directly, you can set all options very fast. All options are controlled via eight option numbers.
When the EAROM is replaced, all options will require a re-setting. To be certain that the factory settings are reproduced exactly, you must set both option number lines. You can find the correct option numbers on a CRT sticker inside the TV set.

Example: The CRT sticker gives the following option numbers:
04187 08526 50001 00000
04182 00001 00000 00070
The first line (group 1) indicates options 1 to 4, the second line (group 2) options 5 to 8 (see tables below).
Every 5-digit number represents 16 bits (so maximum number can be 65536 if all options are set).
When all the correct options are set, the sum of the decimal values of each Option Byte (OB) will give the option number.

OB	Bit	Option name	Settings (in decimal values) for EM5.1E chassis		Option number
1	0 1 2	Featurebox	0= None	2= Prozonic 3= Eagle 4= Falconic 5= Falconic 1050i 1250i	Sum OB1 (decimal)
	3	2D Comb Filter	0= Off	8= On	
	4	Auto-Scavem	0= Off	16= On	
	5	n.a. *	0		
	6	Light Sensor	0= Off	64= On	
	7	Luma Trans. Proc.	0= Off	128= On (for non-Eagle sets)	
	8	n.a. *	0		
	9	n.a. *	0		
	10	n.a. *	0		
	11	n.a. *	0		
	12	WSS	0= Off	4096= On	
	13	3D Comb Filter	0= Off	8192= On	
	14	Pixel Plus	0= Off	16384= On	
	15	n.a. *	0		
2	0	n.a. *	0		Sum OB2 (decimal)
	1	Dolby ProLogic	0= Off	2= On	
	2	Virtual Rear Spkrs	0= Off	4= On	
	3	Cordless Rear Spkrs	0= Off	8= On	
	4	Dolby Digital	0= Off	16= On	
	5	Virtual Dolby	0= Off	32= On	
	6 7	Subwoofer	0= No subwoofer present	64= Subwoofer present	
	8 9 10 11	Chassis	0= EM6	256= EM5 512= EM3 3840= Others	
	12	EPG Type	0= Off (US)	8192= On (EU)	
	13	Flash RAM	0= Off (US)	8192= On (EU)	
	14 15	EPG Version	0= Off (US)	16384= Text guide only 32768= NexTView 2C3 (EU) 49152= NexTView 2	
3	0	n.a. *	0		Sum OB3 (decimal)
	1	n.a. *	0		
	2	AV4 (2fH)	0= Off	4= On (not selectable)	
	3	AV3 (2fH)	0= Off	8= On (not selectable)	
	4	Dual Screen	0= Off	16= On	
	5	n.a. *	0		
	6	TXT/EPG/DS	0= Off	64= On	
	7	n.a. *	0		
	8	Aspect Ratio	0= 4:3	256= 16:9	
	9	Tilt	0= Off	512= On	
	10	Monitor	0= Off	1024= Reserved for FTV	
	11	Integrated Radio	0= Off	2048= On	
	12	Stand Alone	0= Off	4096= Reserved for FTV	
	13	Integrated DVD	0= Off	8192= On (not appl. for FTV)	
	14	Home Cinema	0= Off	16384= On	
	15	Integrated RC (P50)	0= Off	32768= On	
4	0	PIP/Aux. Tuner	0= Off	1= On	Sum OB4 (decimal)
	1	n.a. *	0		
	2	China IF	0= Off	4= On	
	3	Tuner	0= Philips	8= Alps	
	4	Teletext	0= Off	16= On	
	5	n.a. *	0		
	6	n.a. *	0		
	7	n.a. *	0		
	8	Digital Module (MILO)	0= Off	256= On	
	9	Integrated Harddisk	0= Off	512= On	
	10	n.a. *	0		
	11	n.a. *	0		
	12	Anti Aging	0= Off	4096= Reserved for FTV	
	13	DVD-door lock	0= Off	8192= On	
	14	n.a. *	0		
	15	n.a. *	0		

Note: Bits that are not used have a fixed value of "0", and are not mentioned in above overview.

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Figure 8-6 Option bytes Group 1

OB	Bit	Option name	Settings (in decimal values) for F22Rx_AA chassis		Option Number
5	0	n.a. *	0		Sum OB5 (decimal)
	1	Auto Store Mode	0= None	2= PDC/VPS 4= TXT Page 6= PDC/VPS/TXT Page	
	2				
	3	Korean Stereo	0= Off	8= On	
	4	Picture Mute	0= Off	16= On	
	5	n.a. *	0		
	6	Virgin	0= Off	64= On	
	7	n.a. *	0		
	8	n.a. *	0		
	9	n.a. *	0		
	10	n.a. *	0		
	11	n.a. *	0		
	12	TXT Preference	0= TOP	4096= FLOF	
	13	n.a. *	0		
	14	n.a. *	0		
	15	n.a. *	0		
6	0	P50 DVD menu-line	0= Off	1= On	Sum OB6 (decimal)
	1	n.a. *	0		
	2	n.a. *	0		
	3	n.a. *	0		
	4	Region	0= EU	16= AP PAL-multi 32= AP NTSC 48= US 64= LATAM 80= Australia	
	5				
	6				
	7				
	8	n.a. *	0		
	9	n.a. *	0		
	10	n.a. *	0		
	11	n.a. *	0		
	12	n.a. *	0		
	13	n.a. *	0		
	14	n.a. *	0		
	15	n.a. *	0		
7	0	EXT4 1fH (EU)	0= Off (EM5)	1= On	Sum OB7 (decimal)
	1	EXT 2fH 1 (EU)	0= Off (EM5)	2= On	
	2	EXT 2fH 2 (EU)	0= Off	4= On	
	3	EXT VGA (EU)	0= Off	8= On	
	4	EXT DVI (EU)	0= Off	16= On	
	5	EXT3 (EU)	0= Off	32= On	
	6	n.a. *	0		
	7	n.a. *	0		
	8	n.a. *	0		
	9	AV 2fH 1 (non-EU)	0= Off	512= On	
	10	AV 2fH 2 (non-EU)	0= Off	1024= On	
	11	AV VGA (non-EU)	0= Off	2048= On	
	12	AV DVI (non-EU)	0= Off	4096= On	
	13	n.a. *	0		
	14	n.a. *	0		
	15	n.a. *	0		
8	0	Cabinet	0= FL6	1= FL7 2= FL8 3= FL9 DAS 4= FL9 Monitor 5= FL10 6= FL11 7= FL12 8= FL14 (n.a.) 9= PV02 10= FL13 11= Soft Design Line 12= Tech Design Line	Sum OB8 (decimal)
	1				
	2				
	3				
	4	n.a. *	0		
	5	n.a. *	0		
	6	AVL	0= Off	64= On	
	7	n.a. *	0		
	8	Picture tube size	0= 28 inch	256= 32 inch 512= 36 inch 768= 29 inch 1024= 34 inch 1280= 38 inch 1536= 32 inch MEC 1792= 28 inch Mk2 2048= 36 inch FP 3840= Other	
	9				
	10				
	11				
	12	Anti MoirÈ	0= Off	4096= On	
	13	n.a. *	0		
	14	n.a. *	0		
	15	n.a. *	0		

Note: Bits that are not used have a fixed value of "0", and are not mentioned in above overview.

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Figure 8-7 Option bytes Group 2

9. Circuit Descriptions, Abbreviation List, and IC Data Sheets

Index of this chapter

1. Introduction
2. Block diagram
3. Double Window
4. Abbreviation list
5. IC Data Sheets

Note:

- Only **new** circuits (compared to the EM5E) are described. For the other circuit descriptions, see the manual of the EM5E. This manual is available in different languages:
  – 3122 785 12560 = English.
  – 3122 785 12571 = German.
  – 3122 785 12581 = French.
- Figures can deviate slightly from the actual situation, due to different set executions.
- For a good understanding of the following circuit descriptions, please use the diagrams in chapter 6 and 7. Where necessary, you will find a separate drawing for clarification.

9.1 Introduction

For the EM5.1E chassis, there are three ranges foreseen, with the following delta's (compared to the EM5E):

- 93xx: No NexTView level 3, No 3rd SCART, No PIP, Eco Scavem, Virtual Dolby Surround.
- 94xx: New RC, 2-tuner PIP/DW, 3rd SCART with PIP/DW input, Auto Scavem, Virtual Dolby Surround.
- 95xx: New RC, 1-tuner PIP/DW, 3rd SCART with PIP/DW input, Auto Scavem, Dolby ProLogic.

The chassis consists of a full sized LSP/SSP combination and a smaller double sided four layer SSB, which is mounted on the SSP using a SIMM connector. The main functionalities are:

- LSP: supply, deflection, and sound amplification.
- SSP: tuner input, SIMM interface, I/O, and interface provisions for extended functions such as PIP.
- SSB: core TV functionalities, being TXT/control, video and audio decoding, feature box, video featuring, and sync/geometry control.

The LSP (single sided) is built up very conventional, with hardly any surface mounted components on the copper side. Similar with the EM3 (but different as with the MG-chassis), the EM5 LSP has a very large 'hot' part, including both deflection coils.

The SSB is a high tech module (four layer, 2 sides reflow technology, full SMC) with very high component density and complete shielding for EMC-reasons. Despite this, it is designed in such a way, that repair on component level is possible. To achieve this, attention was paid to:

- The position of service test lands: most of them are at the Tuner side.
- Accessibility (Tuner side). If there are still problems with the accessibility, one can order an extension board (see parts list).
- Clearance around surface mounted ICs (for replacing).
- Detailed diagnostics and fault finding is possible via ComPair.

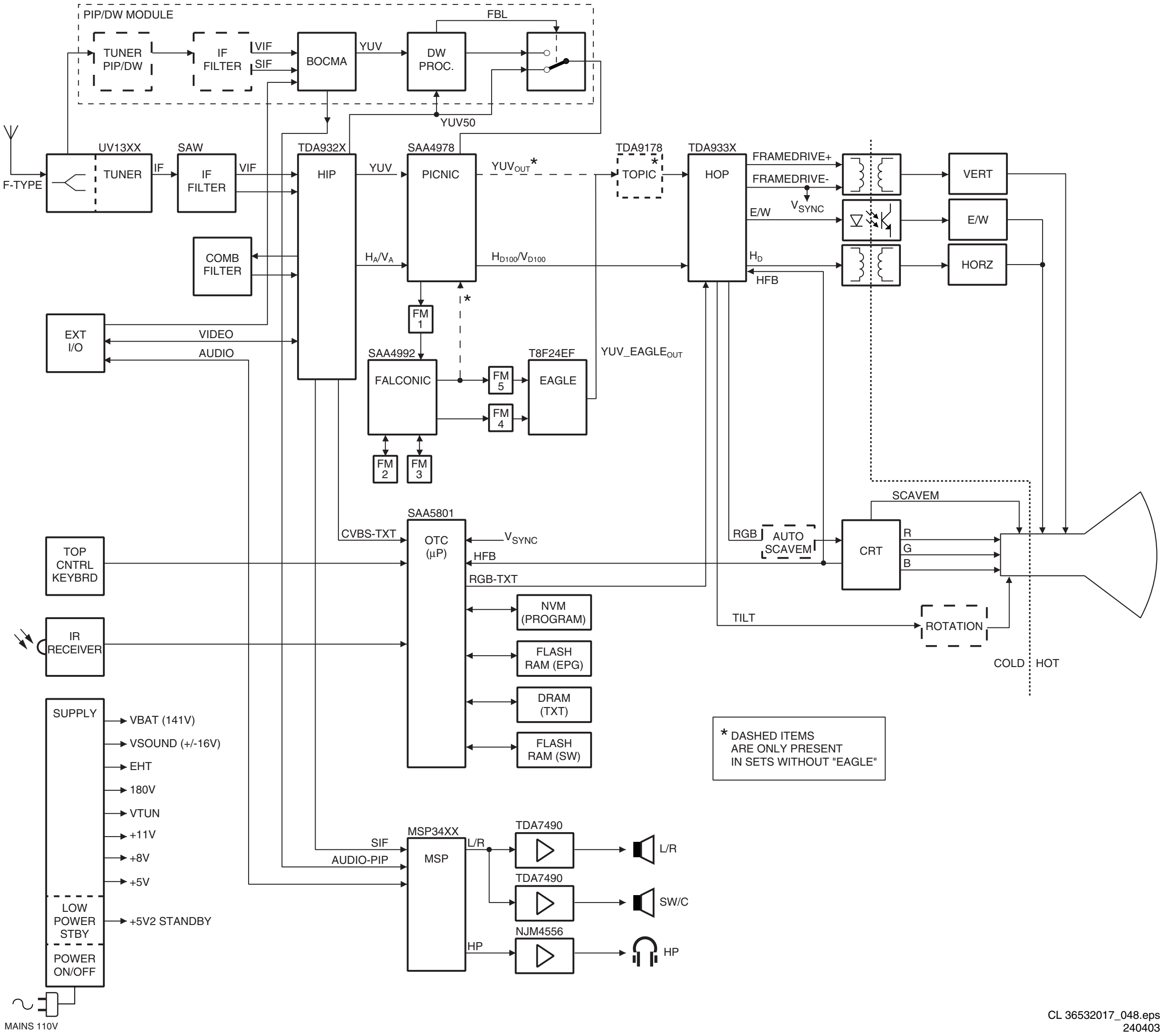
In the architecture, provisions are made for more features/extensions like:

- Wireless surround sound.
- Integrated DVD-player.

The availability of Double Window (DW) or Picture In Picture (PIP) depends on the model range. There are 2 different executions, depending on the number of tuners:

- One Tuner: The TV has only one tuner (on the LSP), so the PIP-picture can be either from this tuner or from an external AV-source.
- Two Tuners: In this case there are 2 separate tuners, so the main picture and the DW picture are independently selectable. The IF signal from the main tuner is processed on the SSB, while the IF signal from the 2nd tuner is processed by a 2nd BOCMA video processor on the DW-panel. The source selection is done via an I/O expander.

9.2 Block Diagram


PIP/DW MODULE
FBL
TUNER PIP/DW
IF FILTER
VIF
SIF
BOCMA
YUV
DW PROC.
YUV50
UV13XX
SAW
TDA932X
SAA4978
TDA9178
TDA933X
F-TYPE
TUNER
IF
IF FILTER
VIF
HIP
YUV
PICNIC
YUV_OUT *
TOPIC
HOP
FRAMEDRIVE+
FRAMEDRIVE-
V_SYNC
E/W
VERT
E/W
HORZ
COMB FILTER
H_A/V_A
H_D100/V_D100
H_D
HFB
EXT I/O
VIDEO
AUDIO
FM 1
SAA4992
T8F24EF
YUV_EAGLE_OUT
FALCONIC
FM 5
EAGLE
FM 4
FM 2
FM 3
SCAVEM
SAA5801
CVBS-TXT
OTC (µP)
V_SYNC
HFB
RGB-TXT
RGB
AUTO SCAVEM
CRT
R
G
B
TOP CNTRL KEYBRD
NVM (PROGRAM)
TILT
ROTATION
IR RECEIVER
FLASH RAM (EPG)
COLD
HOT
DRAM (TXT)
SUPPLY
VBAT (141V)
VSOUND (+/-16V)
EHT
180V
VTUN
+11V
+8V
+5V
FLASH RAM (SW)
* DASHED ITEMS ARE ONLY PRESENT IN SETS WITHOUT "EAGLE"
MSP34XX
SIF
AUDIO-PIP
MSP
L/R
TDA7490
L/R
TDA7490
SW/C
NJM4556
HP
HP
LOW POWER STBY
+5V2 STANDBY
POWER ON/OFF
MAINS 110V

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240403

Figure 9-1 Block diagram

The Tuner (item 1200) is a PLL tuner and delivers the IF-signal, via audio & video SAW-filters, to the HIP (High-end Input Processor). The HIP has the following functions:

- IF modulation.
- Video source- and record select.
- Colour decoder.
- Synchronisation.

Three SCART-connectors can be used:

- SCART1 is fully equipped,
- SCART2 is meant for VCR. Pin 10 is used for Easylink (P50) and there is a possibility for Y/C in. The CVBS-out on pin 19 is meant for WYSIWYR (What You See Is What You Record).
- SCART3 is a RGB/CVBS and audio L/R input. It can be used as 2nd tuner input, in case of a 1-Tuner DW/PIP set.

The HIP delivers YUV and sync signals to the PICNIC. This IC takes care of:

- Analogue to Digital conversion and vice versa.
- 50 to 100 Hz conversion.
- Panorama mode.
- Noise reduction.
- Dynamic contrast.

The '2fH features'-block in the diagram gives several options:

- For Digital Scan, the PICNIC is required.
- For Natural Motion, the FALCONIC is required.
- For Pixel Plus, the EAGLE is required.

After the PICNIC the, now 100 Hz, YUV-signals are fed to the FALCONIC for 'Natural Motion', followed by the Eagle for 'Pixel Plus' enhancement (if present). The processed YUV signals (from Eagle or PICNIC), are, together with the sync-signals from the PICNIC, then fed to the HOP (High-end Output Processor). This IC handles the video control and geometry part. The RGB-signals for TXT/OSD (from the microprocessor) are also inserted via the HOP. The video part delivers the RGB signals to the CRT-panel and the geometry part delivers the H-drive, V-drive, and a drive-signal for rotation.

Both deflection circuits are 'hot' and located on the LSP. They are driven by the HOP. To make a galvanic separation, the Line Drive is driven via transformer 5410 and the Frame Drive via transformer 5621.The horizontal output stage generates some supply voltages and the EHT-, focus- and Vg2-voltages.

The RGB amplifiers on the CRT-panel are supplied with 200 V from the LOT.

The Scavem circuit modulates transitions of the Luminance (Y) signal on the horizontal deflection current, giving a sharper picture.

The sound part is built around the MSP34xx (Multi-channel Sound Processor) for IF sound detection, sound control and source selection. Dolby decoding is also done by the MSP. Amplification is done via a 'class D' integrated power amplifier IC, the TDA7490.

The microprocessor, called OTC (OSD, Teletext and Control) takes care of the analogue TXT input- and output processing. The OTC, ROM, and RAM are supplied with 3.3 V, which is derived from the +5V2.
The NVM (Non Volatile Memory) is used to store the settings, one Flash-RAM contains the set software, the other Flash-RAM (7012) is for EPG, and the DRAM is used for storing the Teletext pages.

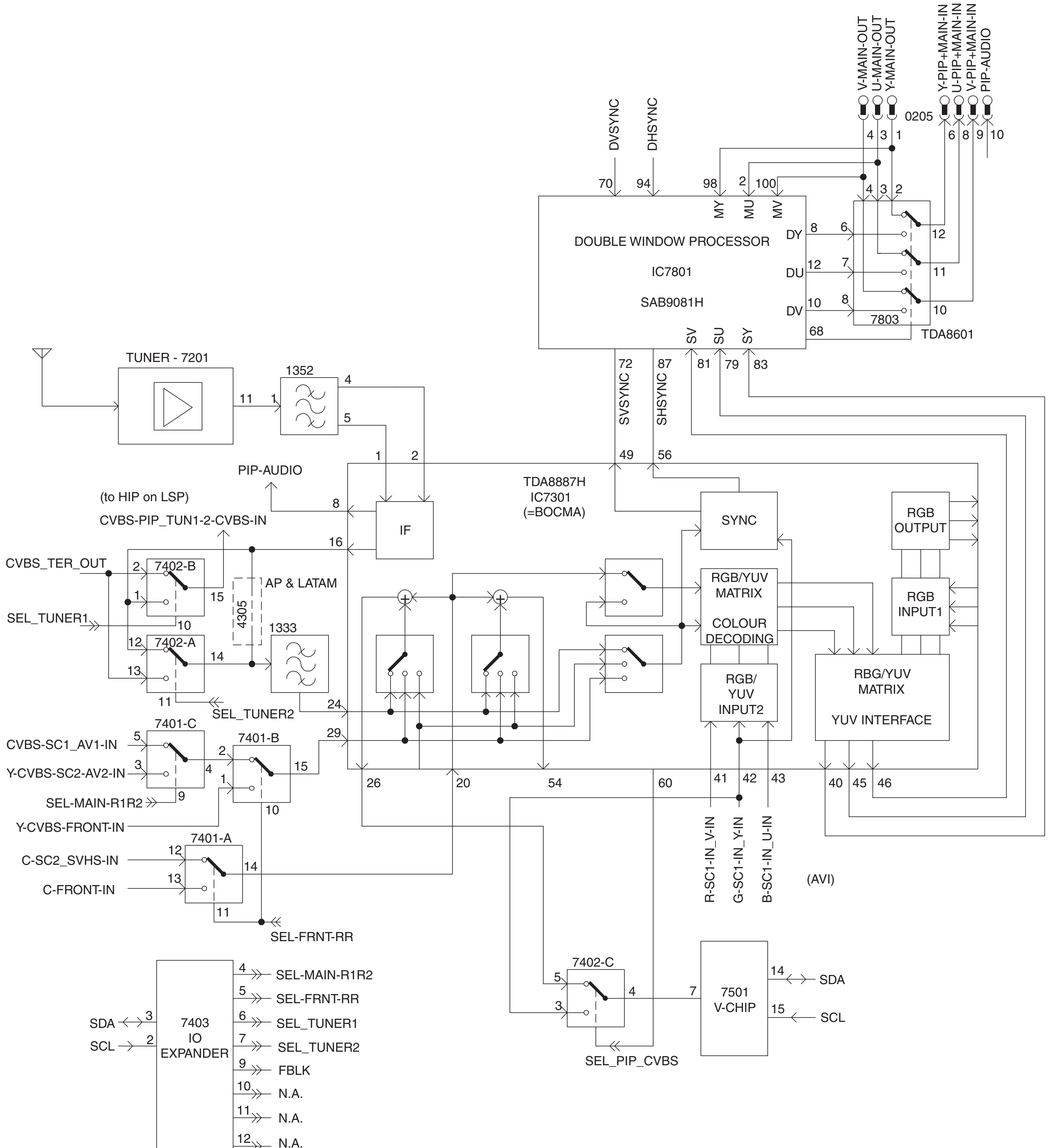
There is a separate Standby Supply, in order to reduce the Standby power consumption. During Standby, the Main Supply is switched 'off' (via TS7529).
A relay (1550) is used to switch the degaussing circuit. It is switched 'on' after set start-up and switched 'off' by the P after 12 s.
The Main Supply, an SMPS based on the 'down-converter' principle, generates the 141 V (V_BAT) and the +/- 16 V for the audio part.
Note: Voltage V_BAT is not mains isolated ('hot'), but is alignment free.

9.3 Double Window

9.3.1 Introduction

The Double Window (DW) panel provides the option for viewer to see two pictures or programs on the displayed area of a TV screen. The displayed pictures can be in PIP or DW mode. The viewer can also select the size and position of the "second" picture.
There are basically two types of configurations. One with one (main) tuner and one with an additional tuner on the DW panel.

9.3.2 Block Diagram


V-MAIN-OUT
U-MAIN-OUT
Y-MAIN-OUT
Y-PIP+MAIN-IN
U-PIP+MAIN-IN
V-PIP+MAIN-IN
PIP-AUDIO
0205
DVSYNC
DHSYNC
DOUBLE WINDOW PROCESSOR
IC7801
SAB9081H
MY
MU
MV
DY
DU
DV
SV
SU
SY
7803
TDA8601
SVSYNC
SHSYNC
TUNER - 7201
1352
IF
PIP-AUDIO
(to HIP on LSP)
CVBS-PIP_TUN1-2-CVBS-IN
TDA8887H
IC7301
(=BOCMA)
SYNC
RGB OUTPUT
RGB/YUV MATRIX
COLOUR DECODING
RGB INPUT1
RGB/ YUV INPUT2
RBG/YUV MATRIX
YUV INTERFACE
CVBS_TER_OUT
7402-B
SEL_TUNER1
7402-A
AP & LATAM
4305
1333
SEL_TUNER2
7401-C
7401-B
CVBS-SC1_AV1-IN
Y-CVBS-SC2-AV2-IN
SEL-MAIN-R1R2
Y-CVBS-FRONT-IN
7401-A
C-SC2_SVHS-IN
C-FRONT-IN
SEL-FRNT-RR
R-SC1-IN_V-IN
G-SC1-IN_Y-IN
B-SC1-IN_U-IN
(AVI)
7402-C
SEL_PIP_CVBS
7501
V-CHIP
SDA
SCL
7403
IO
EXPANDER
SEL-MAIN-R1R2
SEL-FRNT-RR
SEL_TUNER1
SEL_TUNER2
FBLK
N.A.
N.A.
N.A.

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190601

Figure 9-2 Double Window circuitry

9.3.3 IF and Video section

Basically the "IF and video" processing part is quite similar to the circuits used on the main board, except that it has a multi standard PIP processor. The processing in the DW module is performed by the TDA8887H BOCMA IC (in the set by the HIP IC).

One tuner versions

In order to display the external AV sources by the DW panel, a source selection circuit is incorporated on the panel. Three external AV sources are possible. The selection between the sources is performed by IC7401 (HEF4053).

Two tuner versions

The TV uses one RF input to the DWs tuner via a splitter. The tuner on the main board receives RF from the splitter. Due to this configuration, the main board tuner always processes the Main picture while the DW tuner always processes the Sub picture. If the picture between the two tuners needs to be swapped, then the tuners' RF frequencies are swapped.

Signal IF-TER from the tuner is fed to pin 1 and 2, IF circuits of TDA8887H IC7301 via SAW filter 1352. The AGC voltage for the tuner can be adjusted in the SAM tuner menu (2nd AGC).

Source selection
After IF demodulation, the CVBS-PIP-OUT is fed back to TDA888x pin 24 with or without video switching circuit comprises of 7402 (HEF4053). Due to this construction, two independent RF signal pictures can be selectively displayed on the CRTs screen. See table.

Table 9-1 Switching logic for Main and DW Picture

SEL-TUNER1(Pin 6 IC7403)	SEL TUNER2 (Pin 7 IC7403)	Selected CVBS signals
0	0	Main = Tuner 1 DW/PIP = Tuner 2
0	1	Main = Tuner 1 DW/PIP = Tuner 1
1	0	Main = Tuner 2 DW/PIP = Tuner 2
1	1	Main = Tuner 2 DW/PIP = Tuner 1

The source signals are fed directly to video processor IC7301. The IC performs the source selection internally.
The video processor IC7301 decodes the CVBS at pin 24 or pin 29 into YC signals and further process it into YUV signal. Output is at pins 40, 45, and 46.
The PIP-AUDIO signal is fed to pin 47 of the audio demodulator MSP34xx on the SSB.

Note: When S-VHS is inserted from the rear, the AV2 source will be disabled. Likewise, when S-VHS is inserted from the side-AV.

9.3.4 DW/PIP processing

The SAB908x (IC7801) is a multi-standard PIP controller, which can be used in double window or PIP applications. The YUV signals from the video processor IC7301 are fed to pin 79, 81, and 83. The PIP controller will insert the YUV signals from IC7301 with reduced size into the main picture. The main picture YUV signals (50 Hz) are fed to pins 100, 2, and 98, respectively. These signals are used during the DW mode.

Inside IC7801, the conversion to the digital environment is done with ADCs. Processing and storage (1 MB DRAM) of the video data is done entirely in the digital domain. The conversion back to the analogue domain is done by DACs. Internal clocks are generated by PLLs, which lock on to the applied horizontal and vertical syncs from the main and sub pictures. The main picture syncs are applied to pin 70 (V) and pin 94 (H) and the sub picture syncs are applied to pin 72 (V) and pin 87 (H).
For DW mode, the main picture is compressed horizontally by a factor of two and fed directly to the output. After compression, a horizontal expansion of two is possible for the main picture. The sub picture is also compressed horizontally by a factor two, but is stored in memory before it is fed to the outputs.

Post-processed YUV signals are fed to the "fast switching" IC7803 (TDA8601 pins 6, 7, and 8). In normal operation (without DW), the main picture YUV signals (at pins 2, 3 and 4) are bypassed by IC7803, and returned back to the main video processor. When DW mode is active, the compressed YUV signals (main and sub pictures) are used and fed to the main video processor. During the PIP mode, only sub-picture YUV signals are used. The insertion control is made possible by a fast blanking signal from pin 68 of IC7801.

9.3.5 Power supplies

The power supplies used by the DW panel are from the main board 5 V, 8 V, and 33 V (for tuner only). IC7802 LM317T regulates the 5V to +3.3V, +3V, and +3VD. These voltages are mainly used by the DW processor circuitry. The 8V is mainly supplied to the IF + video processing circuitry (IC7301 TDA888x), and to fast switching IC7803.

9.4 Abbreviation list

2DNR	Spatial (2D) Noise Reduction
3DNR	Temporal (3D) Noise Reduction
AARA	Automatic Aspect Ratio Adaptation: algorithm that adapts aspect ratio to remove horizontal black bars; keeping up the original aspect ratio
ACI	Automatic Channel Installation: algorithm that installs TV sets directly from cable network by means of a predefined TXT page
ADC	Analogue to Digital Converter
AFC	Automatic Frequency Control: control signal used to tune to the correct frequency
AGC	Automatic Gain Control: algorithm that controls the video input of the feature-box
AM	Amplitude Modulation
ANR	Automatic Noise Reduction: one of the algorithms of Auto TV
AR	Aspect Ratio: 4 by 3 or 16 by 9
Artistic	See OTC 2.5: main processor
ASF	Auto Screen Fit: algorithm that adapts aspect ratio to remove horizontal black bars but without throwing away video information
ATV	See Auto TV
AUDIO_C	Audio Centre
AUDIO_L	Audio Left
AUDIO_R	Audio Right
AUDIO_SL	Audio Surround Left
AUDIO-SR	Audio surround right
AUDIO_SW	Audio Subwoofer
Auto TV	A hardware and software control system that measures picture content, and adapts image parameters in a dynamic way
BC-PROT	Protection signal to the uP for a too high Beam Current.
BG	System B and G
BLC-INFO	Black Current Info
B-SC1-IN	Blue SCART1 in
B-SC2-IN	Blue SCART2 in
B-TXT	Blue teletext
BOCMA	BiMOS One Chip Mid-end Architecture: integrated video and chroma decoder
CL	Constant Level: audio output to connect with an external amplifier
ComPair	Computer aided rePair
CRT	Cathode Ray Tube or picture tube
CSM	Customer Service Mode
CTI	Colour Transient Improvement: manipulates steepness of chroma transients
CVBS	Composite Video Blanking and Synchronisation
CVBS-TER	CVBS terrestrial
DAC	Digital to Analogue Converter
DBE	Dynamic Bass Enhancement: extra low frequency amplification
DC-filament	Filament supply voltage

DFU	Direction For Use: description for the end user
DNR	Digital Noise Reduction: noise reduction feature of the box
DPL	Dolby ProLogic
DSP	Digital Signal Processing
DST	Dealer Service Tool: special remote control designed for dealers to enter e.g. service mode
DVD	Digital Versatile Disc
DYN-FASE-COR	Dynamic phase correction, to correct the phase of the H-drive
Eagle	Feature box IC performing peaking, zooming and sub pixel LTI in both horizontal and vertical direction, CTI and other colour features
EHT	Extra High Tension
EHT-INFO	Extra High Tension information, used for contrast reduction, vertical and horizontal amplitude correction, beam current protection, and flash detection.
EPG	Electronic Program Guide: system used by broadcasters to transmit TV guide information (= NexTView)
EW	East West, related to horizontal deflection of the set
EW-DRIVE	The drive signal for the EW-transistor
EXT	External (source), entering the set via SCART or via cinches
FALCONIC	Feature box IC performing Digital Natural Motion, 3DNR, and vertical zoom and vertical peaking
FBL	Fast Blanking: DC signal accompanying RGB signals
FBL-PIP	The fast blanking signal for PIP
FBL-TXT	The fast blanking signal for TXT. It has a higher priority than FBL-PIP
FBSCO	Fixed Beam Current Switch Off, a 140 V dip detection to activate the black switch off circuit
FBX	Feature Box: part of small signal / separate module which contains 100 Hz processing, extra featuring and AutoTV algorithms (FBX6= based on PICNIC, FBX7= based on PICNIC and Eagle)
FDS	Full Dual Screen
FILAMENT	Filament of CRT
FLASH	Flash memory
FM	Field Memory or Frequency Modulation
G-TXT	Green teletext
GND-DRIVE	A separate ground for the line drive towards the line driver
HA50	Horizontal Acquisition 1fH: horizontal sync pulse coming out of the HIP
HD100	Horizontal Drive 2fH: horizontal sync pulse coming out of the feature-box
HD at HOME	A signal from the OTC, to switch the HOP to the Pixel Plus standard (75 Hz frame)
HFB	Horizontal Flyback Pulse: horizontal sync pulse from large signal deflection
HIP	High-end video Input Processor: video and chroma decoder of EM5E
HOP	High-end video Output Processor: video, sync, and geometry controller of
HP	Headphone
Interlaced	Scan mode where two fields are used to form one frame. Each field contains half the number of the total amount of lines. The fields are written in 'pairs', causing line flicker
Last Status	The settings last chosen by the customer, read, and stored in RAM or in the NVM. They are called at start-up of the set to configure it according the customers wishes
LDP	Line Deflection Protection signal, derived from the EW-current and voltage
LED	Light Emitting Diode
LINE DRIVE	Line drive signal (for the Line transistor)
LNA	Low Noise Adapter
LSP	Large signal panel
MSP	Multi-standard Sound Processor: ITT sound decoder of EM5E
MUTE	Mute-Line
NC	Not Connected
NVM	Non Volatile Memory: IC containing TV related data e.g. alignments
O/C	Open Circuit
ON/OFF LED	On/Off control signal for the LED
OSD	On Screen Display
OTC	On screen display Teletext and Control; also named Artistic
P50	Project 50 communication: protocol between TV and peripherals
PCB	Printed Circuit Board
PICNIC	Peripheral Integrated Combined Network IC: main IC for 100 Hz featuring and feature processing
PIP	Picture In Picture
Progressive Scan	Scan mode where all scan lines are displayed in one frame at the same time, creating a double vertical resolution.
PTP	Picture Tube Panel
RAM	Random Access Memory
R-TXT	Red teletext
RC	Remote Control
RC5 / RC6	Signal protocol from the remote control receiver
RESET	Reset signal
RGB-PIP	RGB-input for PIP
RGB-TXT	RGB-input for Teletext and OSD
RGB-VC	RGB-input to the Picture Tube Panel
ROM	Read Only Memory
SAM	Service Alignment Mode
SC	Sandcastle: two-level pulse derived from sync signals
S/C	Short Circuit
SCAVEM	Scan Velocity Modulation
SCL-F	Clock signal on fast I2C bus
SD	Standard Definition
SDA-F	Data signal on fast I2C bus
SIF	Sound Intermediate Frequency
SIMM	80-fold connector between LSP and SSB
SNERT	Synchronous No parity Eight bit Reception and Transmit
SSB	Small Signal Board
STBY	Standby
SW	Subwoofer
TXT	Teletext
TXT-DS	Teletext Dual Screen
TXT-KILL	To kill the TXT picture to insert a PIP. It has a higher priority than FBL-TXT.
uP	Microprocessor
U100	U from Feature Box
V100	V from Feature Box
VA50	Vertical Acquisition 1Fh
VBAT	Main supply for deflection (mostly 141 V)
VD100	Vertical Drive 2fh: vertical sync pulse from deflection
VDPOS	One of the symmetrical drive signals for the DC frame output stage.

VDNEG	One of the symmetrical drive signals for the DC frame output stage.
VDS	Virtual Dolby Surround
VFB	Vertical Flyback Pulse: vertical sync pulse coming from the feature box
VL	Variable Level out: processed audio output towards external amplifier
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
X-RAY-PROT	A protection signal for too high X-ray radiation
XTAL	Quartz crystal
Y100	Y from Feature Box
Y-OUT	Luminance-signal to HOP IC
YUV-Feat	The YUV input for the main picture, coming from the Feature box or the HIP

9.5 IC Data Sheets

In this paragraph, the internal block diagrams and pinning are given of ICs that are drawn as a 'black box' in the electrical diagrams (with the exception of 'memory' and 'logic' ICs).

9.5.1 Diagram B3c, T8F24EF (IC7724)

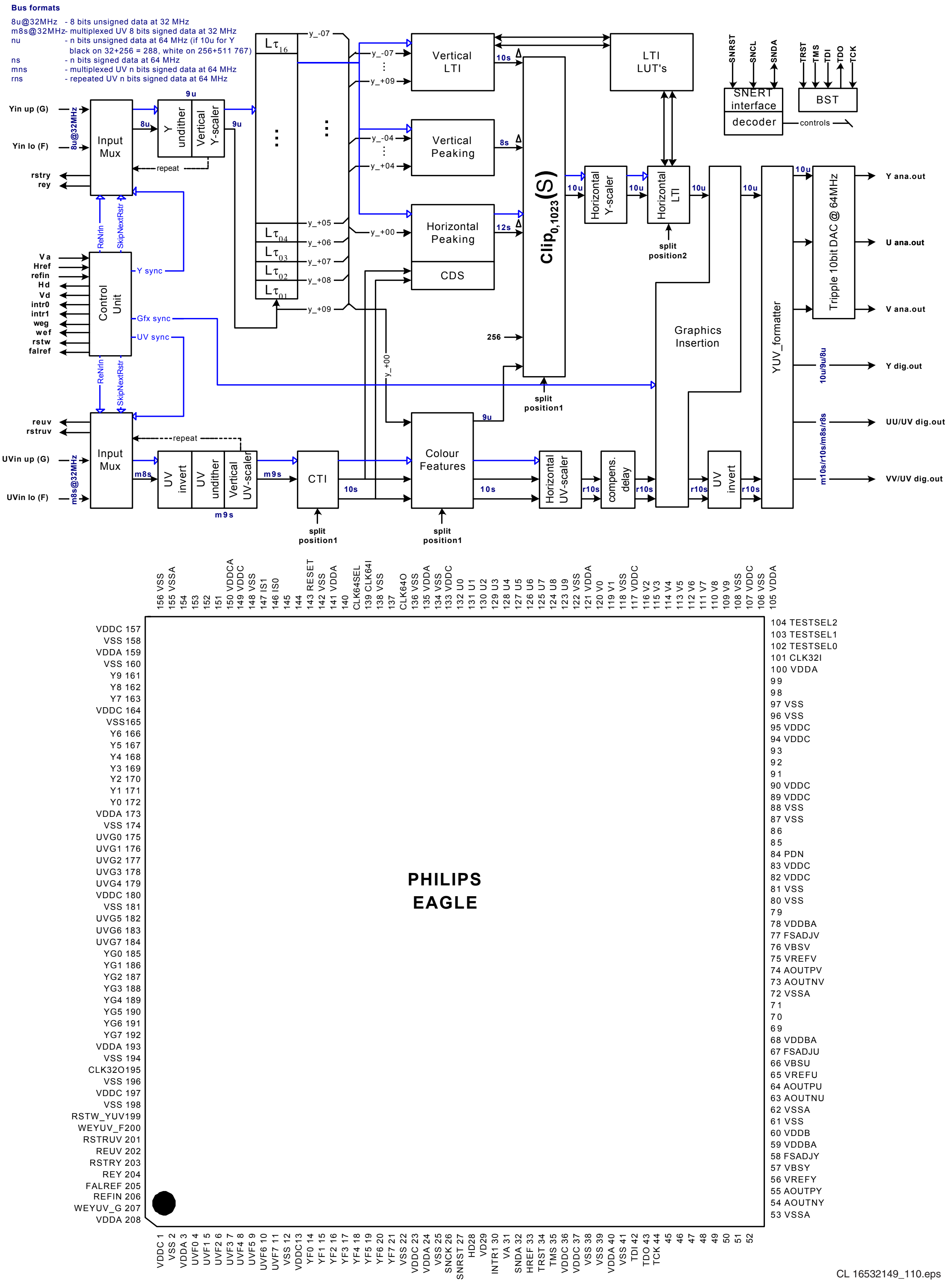
Bus formats
8u@32MHz - 8 bits unsigned data at 32 MHz
m8s@32MHz- multiplexed UV 8 bits signed data at 32 MHz
nu - n bits unsigned data at 64 MHz (if 10u for Y black on 32+256 = 288, white on 256+511 767)
ns - n bits signed data at 64 MHz
mns - multiplexed UV n bits signed data at 64 MHz
rns - repeated UV n bits signed data at 64 MHz
Yin up (G)
Yin lo (F)
8u@32MHz
Input Mux
8u
9u
Y undither
Vertical Y-scaler
9u
repeat
rstry
rey
ReNrln
SkipNextRstr
Va
Href
refin
Hd
Vd
intr0
intr1
weg
wef
rstw
falref
Control Unit
Y sync
Gfx sync
UV sync
ReNrln
SkipNextRstr
reuv
rstruv
UVin up (G)
UVin lo (F)
m8s@32MHz
Input Mux
repeat
m8s
UV invert
UV undither
Vertical UV-scaler
m9s
m9s
CTI
split position1
10s
$L\tau_{16}$
$L\tau_{04}$
$L\tau_{03}$
$L\tau_{02}$
$L\tau_{01}$
y_-07
y_-07
y_+09
y_-04
y_+04
y_+05
y_+06
y_+07
y_+08
y_+09
y_+00
y_+00
Vertical LTI
10s
Vertical Peaking
8s
Horizontal Peaking
12s
CDS
Δ
Δ
Δ
Colour Features
split position1
10s
9u
256
$Clip_{0,1023}$(S)
split position1
10u
Horizontal Y-scaler
10u
LTI LUT's
Horizontal LTI
split position2
10u
10u
Graphics Insertion
Horizontal UV-scaler
r10s
compens. delay
r10s
r10s
UV invert
r10s
YUV_formatter
SNRST
SNCL
SNDA
SNERT interface
decoder
TRST
TMS
TDI
TDO
TCK
BST
controls
10u
Tripple 10bit DAC @ 64MHz
Y ana.out
U ana.out
V ana.out
10u/9u/8u
Y dig.out
m10s/r10s/m8s/r8s
UU/UV dig.out
VV/UV dig.out
156 VSS
155 VSSA
154
153
152
151
150 VDDCA
149 VDDC
148 VSS
147 IS1
146 IS0
145
144
143 RESET
142 VSS
141 VDDA
140
CLK64SEL
139 CLK64I
138 VSS
137
CLK64O
136 VSS
135 VDDA
134 VSS
133 VDDC
132 U0
131 U1
130 U2
129 U3
128 U4
127 U5
126 U6
125 U7
124 U8
123 U9
122 VSS
121 VDDA
120 V0
119 V1
118 VSS
117 VDDC
116 V2
115 V3
114 V4
113 V5
112 V6
111 V7
110 V8
109 V9
108 VSS
107 VDDC
106 VSS
105 VDDA
VDDC 157
VSS 158
VDDA 159
VSS 160
Y9 161
Y8 162
Y7 163
VDDC 164
VSS165
Y6 166
Y5 167
Y4 168
Y3 169
Y2 170
Y1 171
Y0 172
VDDA 173
VSS 174
UVG0 175
UVG1 176
UVG2 177
UVG3 178
UVG4 179
VDDC 180
VSS 181
UVG5 182
UVG6 183
UVG7 184
YG0 185
YG1 186
YG2 187
YG3 188
YG4 189
YG5 190
YG6 191
YG7 192
VDDA 193
VSS 194
CLK32O195
VSS 196
VDDC 197
VSS 198
RSTW_YUV199
WEYUV_F200
RSTRUV 201
REUV 202
RSTRY 203
REY 204
FALREF 205
REFIN 206
WEYUV_G 207
VDDA 208
PHILIPS
EAGLE
104 TESTSEL2
103 TESTSEL1
102 TESTSEL0
101 CLK32I
100 VDDA
99
98
97 VSS
96 VSS
95 VDDC
94 VDDC
93
92
91
90 VDDC
89 VDDC
88 VSS
87 VSS
86
85
84 PDN
83 VDDC
82 VDDC
81 VSS
80 VSS
79
78 VDDBA
77 FSADJV
76 VBSV
75 VREFV
74 AOUTPV
73 AOUTNV
72 VSSA
71
70
69
68 VDDBA
67 FSADJU
66 VBSU
65 VREFU
64 AOUTPU
63 AOUTNU
62 VSSA
61 VSS
60 VDDB
59 VDDBA
58 FSADJY
57 VBSY
56 VREFY
55 AOUTPY
54 AOUTNY
53 VSSA
VDDC 1
VSS 2
VDDA 3
UVF0 4
UVF1 5
UVF2 6
UVF3 7
UVF4 8
UVF5 9
UVF6 10
UVF7 11
VSS 12
VDDC13
YF0 14
YF1 15
YF2 16
YF3 17
YF4 18
YF5 19
YF6 20
YF7 21
VSS 22
VDDC 23
VDDA 24
VSS 25
SNCK 26
SNRST 27
HD28
VD29
INTR1 30
VA 31
SNDA 32
HREF 33
TRST 34
TMS 35
VDDC 36
VDDC 37
VSS 38
VSS 39
VDDA 40
VSS 41
TDI 42
TDO 43
TCK 44
45
46
47
48
49
50
51
52

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Figure 9-3 Internal Block Diagram and Pin Layout.

10. Spare Parts List

Large Signal Panel [A]

Various

0011	3104 308 78231	Transistor cooling clip
0020	4822 492 70789	Transistor clamp
0030	3104 304 23001	LSP chassisframe
0037	3104 304 24131	LOT bracket
0050	4822 466 93461	Insulating plate 20 X 25
0065	3104 304 22031	LOT spacer
0066	3104 304 23051	Conn. support EMGS
0067	3104 304 23061	Conn. part EMGS
0072	3104 304 24141	SSB bracket bottom
0080	4822 492 70789	Transistor clamp
0085	4822 701 13088	Transistor clamp
0086	4822 256 91879	Plastic holder
0090	4822 256 91879	Plastic holder
0091	4822 701 13088	Transistor clamp
0092	4822 256 91879	Plastic holder
0124	3104 300 40441	PT screw K40 X 30
0125	3104 304 90361	Insulating plate
0320	4822 255 41371	Transistor clamp
0341	4822 492 63524	Transistor clamp
0342	4822 492 63524	Transistor clamp
0395	4822 492 70789	Transistor clamp
0396	4822 492 70789	Transistor clamp
0505	4822 492 62076	Transistor clamp
1158	3104 328 13391	DAF + DC-shift assy
1158	3104 328 19401	DAF+DC-Shift assy 36”
1200⚠	3139 147 18141	Tuner UV1316T/A I X-3
1200	3139 147 19341	Tuner UV1318S/A I-3
1205	2422 025 17242	Connector SIMM 80p f
1417	4822 265 20723	Connector 2p m
1424	2422 025 11244	Connector 7p m
1491	4822 267 10973	Connector 1P m
1492	4822 267 10735	Connector 3p m
1498	2422 025 04849	Connector 2p m
1499	2422 025 04849	Connector 2p m
1501⚠	4822 070 35002	218005.(5A)
1502	4822 267 10774	2P male red
1503⚠	4822 070 12502	21702.5(2.5A)
1505	2422 025 16374	Connector 2p m
1511	4822 265 11253	Fuse holder 2p
1512	4822 265 11253	Fuse holder 2p
1520	3104 301 24181	Spring for Bracket
1521	3104 301 24181	Spring for Bracket
1522	4822 255 41371	Transistor clamp
1550⚠	2422 132 07411	Relay 1P 5V 5A
1590	4822 252 60151	Sparkgap DSP-501N-A21F
1601⚠	2422 086 10919	Fuse 65V 125mA
1620	4822 267 10735	Connector 3p m
1625	2422 025 16382	Connector 3p m
1693	4822 267 10676	Connector 1P
1735	4822 267 10565	Connector 4p
1737	2422 025 16382	Connector 3p m
1738	2422 025 16383	Connector 3p m
1901	4822 267 10771	Socket 2 x SCART
1902	4822 267 10982	Connector 2p
1933	4822 267 10565	Connector 4p
1935	4822 267 10734	Connector 5p m
1936	2422 025 12485	Connector 11p m
1937	4822 267 10557	Connector 10p
1940	2422 025 12485	Connector 11p m
1943	4822 267 10748	Connector 3p m
1945	4822 267 10735	Connector 3p m
1946	4822 265 41391	Connector 9p m
1948	2422 025 10768	Connector 3p m
1952	4822 267 10735	Connector 3p m
1953	4822 267 10735	Connector 3p m
1955	4822 267 10735	Connector 3p m
8000	3104 311 03272	Eht cable 640 mm
8000	3104 311 03721	Eht cable 820 mm
8192	3104 301 08351	Cable phono-phono 120mm
8193⚠	4822 320 20216	Focus cable 364 mm
8194⚠	4822 320 20189	Cable HT-focus 44cm Rd
8400	2422 025 16691	3P male
8417	3104 311 04561	Cable 2P3/400/2P3
8424	3104 311 02991	Cable 7P/560/7P Wh
8492	3104 311 05291	Cable 3P/400/3P
8498	3104 311 04531	Cable 2P/400/2P
8625	3104 311 03101	Cable 3P/560/3P Bk
8625	3104 311 03331	Cable 2P/560/3P
8625	3104 311 04741	Cable 3P/180/3P
8693	3104 311 03791	Wire 1P/480/4P
8737	3104 311 04682	Cable 2P3/680/2XPOSI
8933	3104 311 05091	Cable tree 09572 + ferrite
8936	3104 311 05271	Cable 11P/820/11P UL
8937	3104 301 09841	Cable 10P/340/10P Wh
8940	3104 311 04651	Cable 11P/140/11P
8940	3104 311 04761	Cable 11P/400/11P
8940	3104 311 05131	Cable 11P/480/11P
8948	3104 311 05021	Cable 3P/220/3P
8952	3104 311 05291	Cable 3P/400/3P
8955	3104 311 01211	Cable 3P/140/3P Wh UL

⊣⊢

2100	2252 811 95021	1nF 20% 250V
2100	4822 126 13841	1nF 20% 250V
2101	4822 121 51598	2.2nF 5% 400V
2102	4822 124 40248	10µF 20% 63V
2103	2020 552 94427	100pF 5% 50v 0603
2104	4822 123 14025	2200µF 20% 16V
2105	2020 552 94427	100pF 5% 50v 0603
2106	4822 126 13751	47nF 10% 63V
2107	4822 121 43855	3.3nF 5% 400V
2108	4822 121 70162	10nF 5% 400V
2109	4822 126 14472	1µF 10% 10V 0805
2110	4822 126 14472	1µF 10% 10V 0805
2111	4822 121 43526	47nF 5% 250V
2112	5322 126 11583	10nF 10% 50V 0603
2114	2222 338 23104	100nF 20% 275V
2114	4822 121 10711	100nF 20% 275V
2115	4822 124 40764	22µF 100 V
2116	4822 126 13682	100pF 5% 1kV
2118	4822 124 80061	1000µF 20% 25V
2119	4822 123 14025	2200µF 20% 16V
2120	4822 126 11524	1.5 nF 10% 1KV
2126	4822 123 14025	2200µF 20% 16V
2130	5322 126 11583	10nF 10% 50V 0603
2131	4822 126 13881	470pF 5% 50V
2140	4822 124 40248	10µF 20% 63V
2141	4822 124 40248	10µF 20% 63V
2144	4822 126 14472	1µF 10% 10V 0805
2145	4822 126 13881	470pF 5% 50V
2147	3198 017 31530	15nF 50V 0603
2148	4822 126 10206	2.2nF 10% 500V
2149	4822 126 14472	1µF 10% 10V 0805
2150	5322 126 11583	10nF 10% 50V 0603
2152	4822 121 70162	10nF 5% 400V
2154	4822 126 14549	33nF 16V 0603
2200	4822 124 40248	10µF 20% 63V
2201	4822 126 13879	220nF 20% 16V
2202	4822 126 13473	220nF 80-20% 50V
2203	4822 124 80195	470µF 20% 10V
2400	4822 124 11575	47µF 20% 160V
2401	4822 121 42077	6.8nF 10% 400V
2402	2020 012 93596	22µF 20% 250V
2402	2020 012 93771	33µF 20% 250V
2402	4822 124 12373	47µF 20% 250V
2403	2238 916 15641	22nF 10% 25V 0603
2403	4822 126 14494	22nF 10% 25V 0603
2404	2238 916 15641	22nF 10% 25V 0603
2404	4822 126 14494	22nF 10% 25V 0603
2412	3198 024 44730	47nF 50V 0603
2413	4822 124 12255	10µF 20% 50V
2414	3198 024 44730	47nF 50V 0603
2415	4822 126 13883	220pF 5% 50V
2417	4822 126 14076	220nF 25V. 20%
2419	4822 126 14237	470pF 10% R 2kV
2420	4822 121 70581	1.5nF 5% 2kV
2420	4822 121 70584	1,8nF 5% 2KV
2420	4822 121 70595	1.2nF 5% 2kV
2421	2022 333 00091	680nF 10% 250V
2421	2038 301 00312	1.2µF 5% 250V
2425	4822 121 10526	9.1nF 5% 2kV
2425	4822 121 70435	10nF 5% 2kV
2426	2222 375 90345	20nF 5% 630V
2426	4822 121 10653	22nF 5% 630V
2426	4822 121 10658	24nF 5% 630V
2430	4822 126 10206	2.2nF 10% 500V
2431	4822 126 10206	2.2nF 10% 500V
2433	2022 333 00163	360nF 5% 250V
2433	2222 479 90022	430nF 5% 250V
2433	4822 121 10518	390nF 5% 250V
2433	4822 121 42634	560nF 5% 250V
2440	2020 552 96448	1µF 10% 16V
2441	5322 122 32654	22nF 10% 63V
2442	5322 122 31866	6.8nF 10% 63V
2443	9965 000 09661	470pF 50V 10%
2445	5322 122 32654	22nF 10% 63V
2448	5322 122 32268	470pF 5% 63V
2450	5322 121 42578	100nF 5% 250V
2451	2020 012 93757	1000µF 20% 10V
2454	3198 017 31530	15nF 50V 0603
2455	5322 126 11578	1nF 10% 50V 0603
2457	2020 552 96699	15nF 5% 25V
2457	2020 552 96804	15nF 10% 50V 0805
2458	4822 126 14241	330pF 50V 0603
2460	4822 124 81144	1000µF 16V
2461	4822 122 31169	1.5nF 10% 500V
2462	4822 124 80061	1000µF 20% 25V
2463	4822 122 31177	470pF 10% 500V
2464	4822 124 80061	1000µF 20% 25V
2465	4822 122 31177	470pF 10% 500V
2466	2238 586 59812	100nF 20-80% 50V 0603
2468	4822 122 31177	470pF 10% 500V
2469	4822 126 13599	3.3nF 10% 500V
2480	5322 126 11582	6.8nF 10% 63V
2482	3198 017 34730	47nF 16V 0603
2483	4822 126 14238	2.2nF 50V 0603
2483	5322 126 11579	3.3nF 10% 63V
2490	2020 021 91773	100µF 20% 10V
2491	4822 124 81151	22µF 50V
2492	4822 124 23432	100µF 20% 10V
2493	5322 126 11579	3.3nF 10% 63V
2494	2238 780 15654	220nF 10% 16V
2495	2238 780 15654	220nF 10% 16V
2497	4822 126 12105	33nF 5% 50V
2499	5322 126 11579	3.3nF 10% 63V
2501	4822 126 14053	1nF 10% 2kV
2503	5322 121 42489	33nF 5% 250V
2504	2238 916 15641	22nF 10% 25V 0603
2504	4822 126 14494	22nF 10% 25V 0603
2505	2020 554 90173	2.2nF 20% 250V
2505	2252 811 95018	2.2nF 20% 250V
2506	5322 121 42386	100nF 5% 63V
2507	2222 338 22474	470nF 20% 275V
2507	4822 126 13589	470nF 275V
2508	4822 124 11913	22nF 20% 275V
2509	4822 124 11913	22nF 20% 275V
2510	4822 126 14053	1nF 10% 2kV
2511	4822 124 12417	2200µF 20% 25V
2512	4822 124 12417	2200µF 20% 25V
2513	4822 126 13881	470pF 5% 50V
2514	4822 126 14238	2.2nF 50V 0603
2515	4822 124 80096	47µF 200V
2516	2020 024 90743	220µF 20% 400V
2516	4822 124 12415	220µF 20% 400V
2517	4822 121 70162	10nF 5% 400V
2518	4822 122 31211	100pF 10% 500V
2519	4822 126 10206	2.2nF 10% 500V
2520	2222 338 23104	100nF 20% 275V
2520	4822 121 10711	100nF 20% 275V
2522	4822 126 10206	2.2nF 10% 500V
2525	4822 126 14247	1.5nF 50V 0603
2528	4822 126 14472	1µF 10% 10V 0805
2530	4822 126 14472	1µF 10% 10V 0805
2531	4822 122 31177	470pF 10% 500V
2535	4822 126 13193	4.7nF 10% 63V
2537	4822 124 11913	22nF 20% 275V
2538	4822 122 33177	10nF 20% 50V
2540	4822 124 40248	10µF 20% 63V
2541	4822 122 31211	100pF 10% 500V
2542	4822 124 80061	1000µF 20% 25V
2543	4822 124 80061	1000µF 20% 25V
2544	4822 126 14238	2.2nF 50V 0603
2601	2238 586 59812	100nF 20-80% 50V 0603
2603	4822 126 13883	220pF 5% 50V
2604	4822 126 13473	220nF 80-20% 50V
2605	4822 126 13883	220pF 5% 50V
2620	4822 126 13473	220nF 80-20% 50V
2621	2238 586 59812	100nF 20-80% 50V 0603
2622	4822 124 40255	100µF 20% 63V
2623	4822 126 14238	2.2nF 50V 0603
2624	4822 121 51319	1µF 10% 63V
2625	4822 121 51319	1µF 10% 63V
2627	5322 124 40641	10µF 20% 100V
2628	4822 124 40255	100µF 20% 63V
2630	4822 126 14491	2.2µF -20+80% 10V 0805
2631	4822 126 14491	2.2µF -20+80% 10V 0805
2633	5322 126 11579	3.3nF 10% 63V
2635	2238 586 59812	100nF 20-80% 50V 0603
2642	4822 124 40255	100µF 20% 63V
2653	2238 586 15628	2.7nF 10% 50V 0603
2653	5322 126 11579	3.3nF 10% 63V
2656	2238 916 15641	22nF 10% 25V 0603
2656	4822 126 14494	22nF 10% 25V 0603
2657	2238 916 15641	22nF 10% 25V 0603
2657	4822 126 14494	22nF 10% 25V 0603
2659	2238 916 15641	22nF 10% 25V 0603
2659	4822 126 14494	22nF 10% 25V 0603
2660	5322 126 11578	1nF 10% 50V 0603
2702	3198 016 31020	1nF 25V 0603
2704	3198 016 31020	1nF 25V 0603
2705	4822 126 13482	470nF 80/20% 16V
2706	4822 126 14585	100nF 10% 50V

2707	4822 126 14076	220nF 25V. 20%
2708	4822 126 14076	220nF 25V. 20%
2709	4822 126 13881	470pF 5% 50V
2710	4822 126 13881	470pF 5% 50V
2711	3198 016 31020	1nF 25V 0603
2712	2020 552 96683	220nF 10% 50V
2713	4822 126 14076	220nF 25V. 20%
2714	4822 126 14549	33nF 16V 0603
2715	3198 016 31020	1nF 25V 0603
2716	4822 126 14241	330pF 50V 0603
2717	5322 121 42498	680nF 5% 63V
2718	2222 867 15339	33pF 5% 50V 0603
2719	3198 016 31020	1nF 25V 0603
2720	4822 126 14076	220nF 25V. 20%
2721	4822 126 13881	470pF 5% 50V
2722	4822 126 13881	470pF 5% 50V
2723	3198 016 31020	1nF 25V 0603
2724	2020 552 96683	220nF 10% 50V
2725	3198 016 31020	1nF 25V 0603
2726	4822 126 14549	33nF 16V 0603
2727	3198 016 31020	1nF 25V 0603
2728	4822 126 14241	330pF 50V 0603
2729	5322 121 42498	680nF 5% 63V
2740	4822 121 51252	470nF 5% 63V
2741	2222 867 15339	33pF 5% 50V 0603
2742	4822 126 14241	330pF 50V 0603
2743	4822 126 12105	33nF 5% 50V
2744	4822 126 12105	33nF 5% 50V
2745	4822 126 14241	330pF 50V 0603
2746	3198 016 31020	1nF 25V 0603
2747	4822 126 13881	470pF 5% 50V
2748	2020 552 96683	220nF 10% 50V
2749	2020 552 95447	2.2µF 20% 16V
2750	2238 586 59812	100nF 20-80% 50V 0603
2751	4822 126 14585	100nF 10% 50V
2753	4822 126 14076	220nF 25V. 20%
2754	2020 552 95447	2.2µF 20% 16V
2755	3198 016 31020	1nF 25V 0603
2756	4822 126 13881	470pF 5% 50V
2757	2020 552 96683	220nF 10% 50V
2758	5322 121 42498	680nF 5% 63V
2759	5322 126 10511	1nF 5% 50V
2760	5322 122 32268	470pF 5% 63V
2761	4822 126 13881	470pF 5% 50V
2762	4822 126 14076	220nF 25V. 20%
2763	4822 126 14076	220nF 25V. 20%
2777	2020 552 96684	470nF 10% 25V
2778	4822 124 41751	47µF 20% 50V
2779	2020 552 96684	470nF 10% 25V
2780	2020 552 96684	470nF 10% 25V
2781	2020 552 96684	470nF 10% 25V
2782	2020 552 96684	470nF 10% 25V
2783	2020 552 96684	470nF 10% 25V
2784	2020 552 96684	470nF 10% 25V
2785	2020 552 96684	470nF 10% 25V
2786	2238 916 15641	22nF 10% 25V 0603
2786	4822 126 14494	22nF 10% 25V 0603
2787	2238 916 15641	22nF 10% 25V 0603
2791	2020 552 96684	470nF 10% 25V
2792	2020 552 96684	470nF 10% 25V
2914	4822 124 40248	10µF 20% 63V
2915	4822 124 12255	10µF 20% 50V
2917	4822 126 14585	100nF 10% 50V
2929	4822 126 13879	220nF 20% 16V
2930	2020 552 93683	1.2nF 10% 50V 0603
2931	2020 552 93683	1.2nF 10% 50V 0603
2940	4822 124 23432	100µF 20% 10V
2941	4822 126 14585	100nF 10% 50V
2942	4822 126 14585	100nF 10% 50V
2943	4822 126 14585	100nF 10% 50V
2944	4822 126 13879	220nF 20% 16V
2945	4822 126 14491	2.2µF -20+80% 10V 0805
2946	4822 126 14491	2.2µF -20+80% 10V 0805
2947	2020 021 90141	4.7µF 20% 50V
2948	4822 124 23432	100µF 20% 10V
2949	4822 124 23432	100µF 20% 10V
2950	5322 126 11583	10nF 10% 50V 0603
2951	5322 126 11583	10nF 10% 50V 0603
2952	5322 126 11578	1nF 10% 50V 0603
2985	4822 126 14315	390pF 5% 50V 0603
2987	5322 122 31863	330pF 5% 63V
2989	5322 122 31863	330pF 5% 63V
2990	5322 122 31863	330pF 5% 63V
2991	5322 122 32531	100pF 5% 50V
2992	5322 122 31863	330pF 5% 63V
2993	5322 122 32531	100pF 5% 50V
2994	5322 122 31863	330pF 5% 63V
2995	5322 122 31863	330pF 5% 63V
2996	5322 122 31863	330pF 5% 63V
2997	5322 122 31863	330pF 5% 63V
2998	5322 122 32531	100pF 5% 50V
2999	5322 122 32531	100pF 5% 50V

3101	4822 053 20106	10M 5% 0,25W
3102	4822 050 21002	1kΩ 1% 0.6W
3103	4822 050 21002	1kΩ 1% 0.6W
3104	4822 116 52195	47Ω 5% 0.5W
3105	4822 050 11002	1k 1% 0.4W
3106	4822 116 52249	1k8 5% 0.5W
3106	4822 116 52256	2k2 5% 0.5W
3107	4822 116 52249	1k8 5% 0.5W
3107	4822 116 52256	2k2 5% 0.5W
3108	2122 101 02083	1.5Ω 5% 0,5W
3108	4822 116 80676	1Ω5 5% 0.5W
3111	4822 053 10152	1k5 5% 1W
3113	4822 116 52186	22Ω 5% 0.5W
3114	4822 116 83872	220Ω 5% 0.5W
3115	4822 116 52257	22kΩ 5% 0.5W
3116	4822 116 52251	18kΩ 5% 0.5W
3116	4822 116 52257	22kΩ 5% 0.5W
3117	4822 116 52195	47Ω 5% 0.5W
3118	2122 101 02083	1.5Ω 5% 0,5W
3118	4822 116 80676	1Ω5 5% 0.5W
3120	4822 051 20109	10Ω 5% 0.1W
3123	4822 051 30109	10Ω 5% 0.062W
3124	4822 116 52199	68Ω 5% 0.5W
3125	4822 116 52182	15Ω 5% 0.5W
3126	4822 050 21003	10kΩ 1% 0.6W
3127	4822 116 52289	5k6 5% 0.5W
3130	4822 051 30479	47Ω 5% 0.062W
3131	4822 051 30471	470Ω 5% 0.062W
3132	4822 051 20479	47Ω 5% 0.1W
3133	4822 117 10834	47kΩ 1% 0.1W
3134	4822 051 30102	1kΩ 5% 0.062W
3135	4822 051 30101	100Ω 5% 0.062W
3136	4822 051 30109	10Ω 5% 0.062W
3137	4822 050 24702	4k7 1% 0.6W
3140	4822 051 20223	22kΩ 5% 0.1W
3140	4822 117 10837	100kΩ 1% 0.1W
3141	4822 116 52263	2k7 5% 0.5W
3142	4822 051 30332	3.3kΩ 5% 0.062W
3143	4822 051 30101	100Ω 5% 0.062W
3144	4822 116 83883	470Ω 5% 0.5W
3150	4822 117 11373	100Ω 1% 0805
3151	4822 051 30109	10Ω 5% 0.062W
3152	4822 051 30102	1kΩ 5% 0.062W
3153	4822 051 20472	4.7kΩ 5% 0.1W
3155	4822 051 30101	100Ω 5% 0.062W
3156	5322 117 13017	100Ω 1% 0.063W 0603
3157	4822 051 30103	10kΩ 5% 0.062W
3158	5322 117 13021	47Ω 1% 0.063W 0603
3159	4822 051 30103	10kΩ 5% 0.062W
3160	4822 051 30102	1kΩ 5% 0.062W
3161	4822 052 10221	220Ω 5% 0.33W
3162	4822 116 83883	470Ω 5% 0.5W
3164	4822 117 13632	100kΩ 1% 0603 0.62W
3165	4822 051 30331	330Ω 5% 0.062W
3168	4822 051 20472	4.7kΩ 5% 0.1W
3170	4822 116 52291	56kΩ 5% 0.5W
3200	4822 117 11373	100Ω 1% 0805
3201	4822 117 11373	100Ω 1% 0805
3210	4822 051 30102	1kΩ 5% 0.062W
3211	4822 051 30222	2.2kΩ 5% 0.062W
3212	4822 051 30101	100Ω 5% 0.062W
3213	4822 116 52182	15Ω 5% 0.5W
3250	4822 051 20223	22kΩ 5% 0.1W
3261	4822 117 11373	100Ω 1% 0805
3262	4822 117 11373	100Ω 1% 0805
3400	4822 052 11108	1Ω 5% 0.5W
3401	2120 105 93473	27Ω 5% 3W
3402	4822 053 10121	120Ω 5% 1W
3403	4822 116 52175	100Ω 5% 0.5W
3404	4822 051 30471	470Ω 5% 0.062W
3406	4822 117 11373	100Ω 1% 0805
3407	4822 051 30103	10kΩ 5% 0.062W
3409	4822 050 11002	1k 1% 0.4W
3410	4822 051 20479	47Ω 5% 0.1W
3411	2122 101 02111	39Ω 5% 0,5W
3411	4822 116 52193	39Ω 5% 0.5W
3412	4822 117 11817	1.2kΩ 1% 1/16W
3414	4822 051 30331	330Ω 5% 0.062W
3415	3198 012 31590	15Ω 5% 3W
3417	4822 116 52176	10Ω 5% 0.5W
3418	2312 915 16803	68K 1% 0,5W
3418	4822 050 25603	56k 1% 0.6W
3419	4822 051 30474	470kΩ 5% 0.062W
3420	4822 051 30332	3.3kΩ 5% 0.062W
3421	4822 051 30474	470kΩ 5% 0.062W
3422	4822 051 30332	3.3kΩ 5% 0.062W
3423	4822 053 10688	6Ω8 5% 1W
3425	4822 116 52176	10Ω 5% 0.5W
3426	4822 116 52176	10Ω 5% 0.5W
3427	4822 051 30105	1MΩ 5% 0.062W
3427	4822 051 30334	330kΩ 5% 0.062W
3427	4822 051 30684	680kΩ 5% 0.062W
3429	3198 021 32250	2M2 5% 0603
3429	4822 051 30105	1MΩ 5% 0.062W
3431	2306 207 03151	150Ω 5% 0.5W
3437	4822 051 20109	10Ω 5% 0.1W
3440	4822 051 30102	1kΩ 5% 0.062W
3441	4822 051 30223	22kΩ 5% 0.062W
3442	4822 051 30474	470kΩ 5% 0.062W
3443	4822 051 30684	680kΩ 5% 0.062W
3444	4822 051 20108	1Ω 5% 0.1W
3447	4822 117 11373	100Ω 1% 0805
3449	4822 052 10101	100Ω 5% 0.33W
3450	4822 050 21003	10kΩ 1% 0.6W
3450	4822 116 52238	12kΩ 5% 0.5W
3451	4822 050 21003	10kΩ 1% 0.6W
3454	4822 051 20108	1Ω 5% 0.1W
3455	4822 117 12902	8.2kΩ 1% 0.063W 0603
3456	4822 117 12903	1.8kΩ 1% 0.063W 0603
3457	4822 051 30152	1.5kΩ 5% 0.062W
3458	4822 051 30471	470Ω 5% 0.062W
3459	4822 051 30272	2.7kΩ 5% 0.062W
3460	4822 052 10108	1Ω 5% 0.33W
3461	4822 052 10108	1Ω 5% 0.33W
3462	4822 052 11108	1Ω 5% 0.5W
3463	4822 052 11108	1Ω 5% 0.5W
3464	4822 052 11108	1Ω 5% 0.5W
3465	4822 052 11108	1Ω 5% 0.5W
3466	4822 051 30472	4.7kΩ 5% 0.062W
3467	4822 117 13632	100kΩ 1% 0603 0.62W
3472	4822 051 30393	39kΩ 5% 0.062W
3474	4822 051 30563	56kΩ 5% 0.062W
3475	4822 051 30472	4.7kΩ 5% 0.062W
3476	4822 116 83874	220k 5% 0.5W
3478	4822 116 52175	100Ω 5% 0.5W
3479	4822 052 10478	4Ω7 5% 0.33W
3480	4822 052 10478	4Ω7 5% 0.33W
3480	4822 052 10688	6Ω8 5% 0.33W
3481	2322 750 61001	100Ω 5% 1206
3482	4822 051 30221	220Ω 5% 0.062W
3483	4822 117 12903	1.8kΩ 1% 0.063W 0603
3485	4822 051 30471	470Ω 5% 0.062W
3486	2120 108 94004	7k5 1% 0603
3486	2322 704 67502	7.5K 1% 0,5W
3487	4822 117 12902	8.2kΩ 1% 0.063W 0603
3487	5322 117 13056	8.2K 1% 0.063W 0603
3488	4822 050 21005	1MΩ 1% 0.6W
3488	4822 050 26804	680k 1% 0.6W
3489	4822 051 30103	10kΩ 5% 0.062W
3490	4822 051 30332	3.3kΩ 5% 0.062W
3491	4822 117 12925	47kΩ 1% 0.063W 0603
3492	4822 116 52175	100Ω 5% 0.5W
3493	4822 050 21504	150kΩ 1% 0.6W
3496	4822 051 30272	2.7kΩ 5% 0.062W
3497	4822 051 30333	33kΩ 5% 0.062W
3501	4822 116 83872	220Ω 5% 0.5W
3504	4822 051 30222	2.2kΩ 5% 0.062W
3505	4822 116 52257	22kΩ 5% 0.5W
3506	4822 051 30562	5.6kΩ 5% 0.063W 0603
3507	4822 050 21604	160kΩ 1% 0.6W
3508	4822 116 52182	15Ω 5% 0.5W
3509⚠	2122 550 00158	VDR 1mA 612V
3510	4822 117 11454	820Ω 1% 0,1W
3511	4822 053 11222	2k2 5% 2W
3512	4822 117 12891	220kΩ 1% 0.063W 0603
3513	4822 116 52272	330k 5% 0.5W
3514	2322 193 53397	0.39Ω 5% 0.6W
3515	2322 193 53397	0.39Ω 5% 0.6W
3517	4822 117 10834	47kΩ 1% 0.1W
3518	4822 116 52245	150kΩ 5% 0.5W
3519	4822 051 30102	1kΩ 5% 0.062W
3520	4822 053 11333	33k 5% 2W
3521	4822 053 21475	4M7 5% 0,5W
3522	4822 117 11507	6.8kΩ 1% 0.1W
3523	4822 051 20105	1MΩ 5% 0.1W
3524	4822 051 30333	33kΩ 5% 0.062W
3525	4822 051 30479	47Ω 5% 0.062W
3526	4822 116 83303	0.1Ω 2W
3527	4822 117 11951	2kΩ 1% 0.1W
3528	4822 051 30103	10kΩ 5% 0.062W
3529	4822 051 30472	4.7kΩ 5% 0.062W
3530	4822 051 30102	1kΩ 5% 0.062W
3531	4822 117 11507	6.8kΩ 1% 0.1W
3532	4822 117 12925	47kΩ 1% 0.063W 0603
3533	4822 116 52182	15Ω 5% 0.5W
3534	4822 117 12925	47kΩ 1% 0.063W 0603
3535	4822 051 30479	47Ω 5% 0.062W
3536	4822 052 10102	1k 5% 0.33W
3537	4822 116 52182	15Ω 5% 0.5W
3540	4822 050 23303	33k 1% 0.6W
3543	4822 050 24708	4Ω7 1% 0.6W
3547	4822 051 30008	Jumper 0603
3549	5322 117 13039	220K 1% 0.063W 0603
3550⚠	2122 663 00018	PTC 4.7Ω 20%

3550⚠	2322 662 96858	PTC 276V 4.5Ω 20%
3551	4822 116 83872	220Ω 5% 0.5W
3552	4822 051 30222	2.2kΩ 5% 0.062W
3553	4822 051 30103	10kΩ 5% 0.062W
3610	4822 051 30223	22kΩ 5% 0.062W
3611	4822 051 30222	2.2kΩ 5% 0.062W
3620	4822 050 21808	1.8Ω 1% 0,6W
3620	4822 116 80176	1Ω 5% 0.5W
3620	4822 116 80676	1Ω5 5% 0.5W
3621	4822 116 80176	1Ω 5% 0.5W
3621	4822 116 80676	1Ω5 5% 0.5W
3622	2122 101 02083	1.5Ω 5% 0,5W
3622	4822 116 80176	1Ω 5% 0.5W
3622	4822 116 81039	1.8Ω 5% 0.5W
3623	4822 116 52251	18kΩ 5% 0.5W
3623	4822 116 52257	22kΩ 5% 0.5W
3624	4822 052 10158	1Ω5 5% 0.33W
3625	4822 050 15609	56Ω 1% 0.4W
3625	4822 053 10121	120Ω 5% 1W
3625	4822 116 52219	330Ω 5% 0.5W
3625	4822 116 83872	220Ω 5% 0.5W
3626	4822 050 15609	56Ω 1% 0.4W
3626	4822 116 52199	68Ω 5% 0.5W
3626	4822 116 52219	330Ω 5% 0.5W
3626	4822 116 80176	1Ω 5% 0.5W
3626	4822 116 83872	220Ω 5% 0.5W
3627	4822 051 20223	22kΩ 5% 0.1W
3630	4822 051 30333	33kΩ 5% 0.062W
3631	4822 051 30222	2.2kΩ 5% 0.062W
3632	4822 051 30393	39kΩ 5% 0.062W
3633	4822 051 30563	56kΩ 5% 0.062W
3634	4822 116 83882	39k 5% 0.5W
3635	4822 116 52219	330Ω 5% 0.5W
3636	4822 051 30223	22kΩ 5% 0.062W
3637	4822 051 30103	10kΩ 5% 0.062W
3638	4822 051 30474	470kΩ 5% 0.062W
3639	4822 051 30563	56kΩ 5% 0.062W
3640	4822 051 30222	2.2kΩ 5% 0.062W
3641	4822 116 83883	470Ω 5% 0.5W
3642	4822 101 11193	47k 30% 0.1W
3643	4822 051 30334	330kΩ 5% 0.062W
3644	4822 051 30221	220Ω 5% 0.062W
3645	4822 116 52245	150kΩ 5% 0.5W
3646	4822 117 12925	47kΩ 1% 0.063W 0603
3647	4822 051 20228	2.2Ω 5% 0.1W
3649	4822 051 30103	10kΩ 5% 0.062W
3653	4822 051 20223	22kΩ 5% 0.1W
3654	4822 051 30472	4.7kΩ 5% 0.062W
3655	4822 051 30123	12kΩ 5% 0.062W
3656	4822 117 11817	1.2kΩ 1% 1/16W
3657	4822 051 30223	22kΩ 5% 0.062W
3658	4822 051 30223	22kΩ 5% 0.062W
3659	4822 051 30222	2.2kΩ 5% 0.062W
3660	4822 051 30562	5.6kΩ 5% 0.063W 0603
3661	4822 116 52206	120Ω 5% 0.5W
3661	4822 116 52219	330Ω 5% 0.5W
3661	4822 116 83883	470Ω 5% 0.5W
3662	4822 051 30152	1.5kΩ 5% 0.062W
3665	4822 051 30479	47Ω 5% 0.062W
3681	4822 116 52207	1k2 5% 0.5W
3682	4822 117 13632	100kΩ 1% 0603 0.62W
3683	4822 051 30103	10kΩ 5% 0.062W
3684	4822 051 30682	6.8kΩ 5% 0.062W
3685	4822 051 30273	27kΩ 5% 0.062W
3686	4822 051 30563	56kΩ 5% 0.062W
3687	4822 116 52207	1k2 5% 0.5W
3688	4822 051 20684	680kΩ 5% 0.1W
3689	4822 050 11002	1k 1% 0.4W
3690	4822 051 30109	10Ω 5% 0.062W
3701	4822 051 30103	10kΩ 5% 0.062W
3702	4822 051 30682	6.8kΩ 5% 0.062W
3703	4822 051 30333	33kΩ 5% 0.062W
3703	4822 051 30472	4.7kΩ 5% 0.062W
3704	4822 117 10833	10kΩ 1% 0.1W
3705	4822 051 20828	8.2Ω 5% 0.1W
3706	2322 704 65102	5.1kΩ 1% 0603
3707	4822 051 30683	68kΩ 5% 0.062W
3708	4822 051 30563	56kΩ 5% 0.062W
3709	4822 117 11503	220Ω 1% 0.1W
3710	4822 051 30223	22kΩ 5% 0.062W
3711	4822 050 11204	120k 1% 0.4W
3711	4822 050 21204	120KΩ 1% 0,6W
3712	4822 117 12706	10kΩ 1% 0.063W 0603
3713	4822 116 83884	47k 5% 0.5W
3714	4822 117 12925	47kΩ 1% 0.063W 0603
3715	4822 117 12925	47kΩ 1% 0.063W 0603
3716	4822 117 12925	47kΩ 1% 0.063W 0603
3717	4822 117 13632	100kΩ 1% 0603 0.62W
3718	4822 117 13632	100kΩ 1% 0603 0.62W
3719	4822 117 11503	220Ω 1% 0.1W
3720	4822 117 11503	220Ω 1% 0.1W
3721	2322 704 65102	5.1kΩ 1% 0603
3722	4822 051 30683	68kΩ 5% 0.062W
3723	4822 051 30563	56kΩ 5% 0.062W
3724	4822 117 11503	220Ω 1% 0.1W
3725	4822 051 30223	22kΩ 5% 0.062W
3726	4822 117 11503	220Ω 1% 0.1W
3727	4822 117 11503	220Ω 1% 0.1W
3728	4822 116 52234	100kΩ 5% 0,5W
3729	4822 117 10837	100kΩ 1% 0.1W
3730	4822 117 11503	220Ω 1% 0.1W
3731	4822 117 11503	220Ω 1% 0.1W
3732	4822 051 30223	22kΩ 5% 0.062W
3733	4822 051 30223	22kΩ 5% 0.062W
3734	4822 051 20124	120kΩ 5% 0.1W
3735	4822 051 30683	68kΩ 5% 0.062W
3736	4822 051 30563	56kΩ 5% 0.062W
3737	2322 704 65102	5.1kΩ 1% 0603
3738	4822 051 20828	8.2Ω 5% 0.1W
3739	4822 051 30683	68kΩ 5% 0.062W
3740	2322 704 65102	5.1kΩ 1% 0603
3741	2322 704 61243	12k4 1% 0603
3742	4822 051 30563	56kΩ 5% 0.062W
3743	4822 117 11449	2.2kΩ 5% 0.1W 0805
3744	4822 117 12891	220kΩ 1% 0.063W 0603
3745	4822 051 30102	1kΩ 5% 0.062W
3746	4822 051 30223	22kΩ 5% 0.062W
3748	4822 051 30008	Jumper 0603
3749	4822 116 83883	470Ω 5% 0.5W
3750	4822 117 11449	2.2kΩ 5% 0.1W 0805
3751	4822 117 11449	2.2kΩ 5% 0.1W 0805
3752	4822 117 11449	2.2kΩ 5% 0.1W 0805
3760	4822 117 12891	220kΩ 1% 0.063W 0603
3790	4822 051 30272	2.7kΩ 5% 0.062W
3791	4822 051 30272	2.7kΩ 5% 0.062W
3792	4822 051 30103	10kΩ 5% 0.062W
3793	4822 051 30103	10kΩ 5% 0.062W
3794	4822 051 30103	10kΩ 5% 0.062W
3795	4822 051 30103	10kΩ 5% 0.062W
3796	4822 051 30272	2.7kΩ 5% 0.062W
3797	4822 051 30272	2.7kΩ 5% 0.062W
3798	4822 051 30153	15kΩ 5% 0.062W
3903	4822 051 20561	560Ω 5% 0.1W
3904	4822 052 10688	6Ω8 5% 0.33W
3907	4822 051 20479	47Ω 5% 0.1W
3910	4822 117 12521	68Ω 1% 0.1W
3928	4822 051 30008	Jumper 0603
3938	4822 117 11373	100Ω 1% 0805
3939	4822 051 30103	10kΩ 5% 0.062W
3940	4822 051 20561	560Ω 5% 0.1W
3941	4822 052 10688	6Ω8 5% 0.33W
3942	4822 117 11373	100Ω 1% 0805
3943	4822 051 30103	10kΩ 5% 0.062W
3945	4822 117 12955	2.7kΩ 1% 0.1W 0805
3959	4822 117 10353	150Ω 1% 0.1W
3960	4822 117 10353	150Ω 1% 0.1W
3961	4822 117 10353	150Ω 1% 0.1W
3962	4822 117 10353	150Ω 1% 0.1W
3965	4822 117 10353	150Ω 1% 0.1W
3966	4822 117 10353	150Ω 1% 0.1W
3967	4822 116 52201	75Ω 5% 0.5W
3968	4822 116 52201	75Ω 5% 0.5W
3969	4822 051 20008	Jumper 0805
3970	4822 051 20008	Jumper 0805
3971	4822 116 52201	75Ω 5% 0.5W
3972	2122 101 02073	82Ω 5% 0,5W
3972	4822 116 52202	82Ω 5% 500mW
3973	4822 116 52201	75Ω 5% 0.5W
3974	4822 116 52201	75Ω 5% 0.5W
3975	4822 116 52201	75Ω 5% 0.5W
3976	4822 117 11373	100Ω 1% 0805
3977	4822 117 11373	100Ω 1% 0805
3978	4822 117 11373	100Ω 1% 0805
3979	4822 116 52201	75Ω 5% 0.5W
3980	4822 117 11373	100Ω 1% 0805
3981	4822 051 20822	8.2kΩ 5% 0,1W
3982	4822 051 20392	3.9kΩ 5% 0.1W
3983	4822 116 52175	100Ω 5% 0.5W
3984	4822 051 20822	8.2kΩ 5% 0,1W
3985	4822 116 52201	75Ω 5% 0.5W
3986	4822 116 52276	3.9kΩ 5% 0.5W
3987	4822 116 52175	100Ω 5% 0.5W
3988	4822 051 10102	1kΩ 2% 0.25W
3989	4822 050 11002	1k 1% 0.4W
3990	4822 117 10353	150Ω 1% 0.1W
3991	4822 117 10353	150Ω 1% 0.1W
3992	4822 117 10353	150Ω 1% 0.1W
3993	4822 116 83868	150Ω 5% 0.5W
3994	4822 051 10102	1kΩ 2% 0.25W
3995	4822 051 10102	1kΩ 2% 0.25W
3996	4822 117 10353	150Ω 1% 0.1W
3997	4822 117 10353	150Ω 1% 0.1W
9103	4822 051 20008	Jumper 0805
9105	4822 051 20008	Jumper 0805
9107	4822 051 30008	Jumper 0603
9108	4822 051 30008	Jumper 0603
9128	4822 051 30008	Jumper 0603
9200	4822 051 20008	Jumper 0805
9202	4822 051 30008	Jumper 0603
9203	4822 051 30008	Jumper 0603
9204	4822 051 30008	Jumper 0603
9205	4822 051 20008	Jumper 0805
9207	4822 051 30008	Jumper 0603
9208	4822 051 20008	Jumper 0805
9209	4822 051 20008	Jumper 0805
9210	4822 051 30008	Jumper 0603
9211	4822 051 30008	Jumper 0603
9212	4822 051 20008	Jumper 0805
9214	4822 051 20008	Jumper 0805
9215	4822 051 20008	Jumper 0805
9216	4822 051 20008	Jumper 0805
9217	4822 051 20008	Jumper 0805
9218	4822 051 20008	Jumper 0805
9219	4822 051 20008	Jumper 0805
9221	4822 051 20008	Jumper 0805
9222	4822 051 20008	Jumper 0805
9226	4822 051 30008	Jumper 0603
9251	4822 051 30008	Jumper 0603
9261	4822 051 20008	Jumper 0805
9262	4822 051 20008	Jumper 0805
9263	4822 051 20008	Jumper 0805
9264	4822 051 20008	Jumper 0805
9418	4822 051 20008	Jumper 0805
9421	4822 051 20008	Jumper 0805
9422	4822 051 30008	Jumper 0603
9424	4822 051 30008	Jumper 0603
9427	4822 051 30008	Jumper 0603
9428	4822 051 30008	Jumper 0603
9429	4822 051 30008	Jumper 0603
9430	4822 051 30008	Jumper 0603
9431	4822 051 30008	Jumper 0603
9432	4822 051 30008	Jumper 0603
9433	4822 051 30008	Jumper 0603
9434	4822 051 30008	Jumper 0603
9435	4822 051 30008	Jumper 0603
9436	4822 051 30008	Jumper 0603
9437	4822 051 30008	Jumper 0603
9438	4822 051 30008	Jumper 0603
9440	4822 051 30008	Jumper 0603
9441	4822 051 30008	Jumper 0603
9443	4822 051 30008	Jumper 0603
9481	4822 051 30008	Jumper 0603
9483	4822 051 30008	Jumper 0603
9499	4822 051 30008	Jumper 0603
9505	4822 051 20008	Jumper 0805
9560	4822 051 30008	Jumper 0603
9561	4822 051 20008	Jumper 0805
9621	4822 051 30008	Jumper 0603
9624	4822 051 30008	Jumper 0603
9676	4822 051 30008	Jumper 0603
9677	4822 051 20008	Jumper 0805
9702	4822 051 30008	Jumper 0603
9704	4822 051 20008	Jumper 0805
9705	4822 051 20008	Jumper 0805
9706	4822 051 30471	470Ω 5% 0.062W
9707	4822 051 30008	Jumper 0603
9711	4822 051 30008	Jumper 0603
9713	4822 051 30008	Jumper 0603
9714	4822 051 20008	Jumper 0805
9716	4822 051 20008	Jumper 0805
9717	4822 051 30008	Jumper 0603
9908	4822 051 30008	Jumper 0603
9927	4822 051 20008	Jumper 0805
9928	4822 051 20008	Jumper 0805
9960	4822 051 30008	Jumper 0603
9962	4822 051 30008	Jumper 0603
9966	4822 051 30008	Jumper 0603
9979	4822 051 20008	Jumper 0805
9981	4822 051 20008	Jumper 0805
9985	4822 051 30008	Jumper 0603
9986	4822 051 20008	Jumper 0805
9987	4822 051 20008	Jumper 0805
9988	4822 051 20008	Jumper 0805
9989	4822 051 20008	Jumper 0805
9990	4822 051 20008	Jumper 0805
9991	4822 051 20008	Jumper 0805
9992	4822 051 20008	Jumper 0805
9993	4822 051 20008	Jumper 0805
9994	4822 051 20008	Jumper 0805
9997	4822 051 20008	Jumper 0805

5100⚠	3104 308 20431	Transformer BS25126-03
5100⚠	3104 308 20561	TFM BS25125-04 B
5102	2422 535 94639	10µH 20%
5103	4822 526 10704	Bead 45Ω at 50MHz
5104	4822 157 11411	Bead 83Ω at 100MHz
5105	2422 535 94632	1µH 30%
5106	4822 526 10704	Bead 45Ω at 50MHz
5111	4822 157 11411	Bead 83Ω at 100MHz

5113	4822 157 11411	Bead 83Ω at 100MHz
5130	4822 157 11411	Bead 83Ω at 100MHz
5400	4822 157 11869	33µH 10% LHL08
5401	2422 536 00059	12µH 10%
5402	3198 018 21510	150µH 10%
5410▲	3128 138 39091	Transformer CE165T
5411	4822 157 71097	0.56µH 10%
5421	3104 308 20471	Coil BL15131-00 Y
5421	3104 308 20591	Linearity coil 5µH
5421	3104 308 20611	Linearity coil 5µH 30”
5421	3104 308 20691	Linearity coil 5µH 34”
5422	3104 308 20671	Bridge coil BC21215-01
5422▲	3104 308 20752	Bridge coil BC21237-01 Y
5423	4822 157 71097	0.56µH 10%
5425	4822 157 11411	Bead 83Ω at 100MHz
5426	4822 157 70826	2.4µH
5430▲	3104 308 20491	LOT 1392.9014A
5430▲	3104 308 20521	LOT 1392.9005C 30”
5430▲	3104 308 20741	Trans. 1392.9010B Y
5461	4822 157 11411	Bead 83Ω at 100MHz
5463	4822 157 11411	Bead 83Ω at 100MHz
5465	4822 157 11411	Bead 83Ω at 100MHz
5466	2422 535 94996	18µH 10%
5467	4822 157 11411	Bead 83Ω at 100MHz
5469	4822 157 11411	Bead 83Ω at 100MHz
5503▲	2422 549 44877	Filter 45mH DMF2845H
5505	4822 157 11411	Bead 83Ω at 100MHz
5506▲	2422 531 02501	Transformer S30940-04
5507	4822 157 11411	Bead 83Ω at 100MHz
5509	4822 157 11411	Bead 83Ω at 100MHz
5511	3104 308 20511	FIL MAINS HARM 40MH Y
5513	4822 157 11869	33µH 10% LHL08
5514	4822 157 11869	33µH 10% LHL08
5515	4822 157 11869	33µH 10% LHL08
5620	4822 157 11771	0.09µH 10%
5621▲	3104 308 20571	Transformer S13974-03 34'
5701	2422 536 00385	68µH 10%
5702	2422 536 00385	68µH 10%
5703	4822 157 11716	Bead 30Ω at 100MHz
5707	4822 157 11411	Bead 83Ω at 100MHz
5708	4822 157 11411	Bead 83Ω at 100MHz
5711	4822 157 11411	Bead 83Ω at 100MHz
5712	4822 157 11411	Bead 83Ω at 100MHz
5715	4822 157 11411	Bead 83Ω at 100MHz
5716	4822 157 11411	Bead 83Ω at 100MHz
5720	2422 536 00385	68µH 10%
5721	2422 536 00385	68µH 10%
5722	4822 157 11411	Bead 83Ω at 100MHz
5723	4822 157 11411	Bead 83Ω at 100MHz
5725	4822 157 11411	Bead 83Ω at 100MHz
5901	4822 157 11299	10µH 5%
5902	4822 157 11869	33µH 10% LHL08
5903	4822 157 10359	33µH 10%
5904	4822 157 11411	Bead 83Ω at 100MHz

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6080	4822 130 11397	BAS316
6082	4822 130 11528	1PS76SB10
6084	4822 130 11522	UDZ15B
6103	4822 130 41601	BYV95A
6103	4822 130 42488	BYD33D
6103	5322 130 31938	BYV27-200
6105	4822 130 34281	BZX79-B15
6106	3198 010 52290	BZX79-B22
6107	4822 130 11572	STPS8H100F
6108	4822 130 11528	1PS76SB10
6109	4822 130 31083	BYW55
6110	9340 418 70133	BYV27-600
6111	9322 161 78682	SB360L-7024
6112	4822 130 11551	UDZS10B
6115	4822 130 11528	1PS76SB10
6118	4822 130 11397	BAS316
6119	4822 130 11397	BAS316
6120	4822 130 30621	1N4148
6121	4822 130 30621	1N4148
6122	3198 010 53980	BZX79-B3V9
6130	4822 130 11596	BYW29EX-200
6132	9322 171 80685	BZX384-B6V8
6133	4822 130 11397	BAS316
6134	4822 130 11397	BAS316
6141	9322 129 42685	BZM55-C15
6142	4822 130 11528	1PS76SB10
6144	4822 130 11397	BAS316
6147	4822 130 34278	BZX79-B6V8
6148	5322 130 31938	BYV27-200
6149	4822 130 11397	BAS316
6200	9340 548 71115	SM PDZ33B
6201	4822 130 11397	BAS316
6202	4822 130 11397	BAS316
6400	4822 130 70055	BYV27-400
6405	4822 130 34383	BZX79-B47
6406	4822 130 11397	BAS316
6407	4822 130 11397	BAS316
6408	4822 130 41601	BYV95A
6408	4822 130 42488	BYD33D
6421	4822 130 10753	BY359X-1500
6422	4822 130 10218	BY229X-800
6442	4822 130 11522	UDZ15B
6455	4822 130 11397	BAS316
6456	5322 130 34337	BAV99
6457	9322 102 64685	UDZ2.7B
6458	3198 020 55680	BZX384-C5V6
6460	4822 130 41487	BYV95C
6462	9322 127 32682	BYW76-RAS15/10
6464	9322 127 32682	BYW76-RAS15/10
6465	3139 120 52021	BYV29X-500
6480	4822 130 41601	BYV95A
6480	4822 130 42488	BYD33D
6481	4822 130 11522	UDZ15B
6482	4822 130 11397	BAS316
6483	4822 130 11528	1PS76SB10
6493	4822 130 11528	1PS76SB10
6505	4822 130 34281	BZX79-B15
6506	4822 130 10654	BAT254
6506	4822 130 80622	BAT54
6509	4822 130 11397	BAS316
6510	4822 130 61219	BZX79-B10
6511	4822 130 11397	BAS316
6512	4822 130 11397	BAS316
6514	5322 130 31932	BZT03-C200
6515	4822 130 33657	BZV85-C6V8
6516	4822 130 11397	BAS316
6517	4822 130 11528	1PS76SB10
6525▲	3198 010 10640	Bridge cell GBU4K
6530	4822 130 41487	BYV95C
6534	9322 165 72687	DTV1500MFP
6535	4822 130 11572	STPS8H100F
6536	4822 130 11572	STPS8H100F
6537	4822 130 11397	BAS316
6614	4822 130 11528	1PS76SB10
6615	4822 130 11397	BAS316
6616	4822 130 11397	BAS316
6617	4822 130 11397	BAS316
6618	4822 130 11397	BAS316
6619	4822 130 41601	BYV95A
6619	4822 130 42488	BYD33D
6620	5322 130 31938	BYV27-200
6621	4822 130 41601	BYV95A
6621	4822 130 42488	BYD33D
6622	5322 130 32296	BZV85-C10
6622	5322 130 33635	BZV85-C8V2
6623	4822 130 11397	BAS316
6624	4822 130 11397	BAS316
6625	4822 130 11397	BAS316
6626	4822 130 11397	BAS316
6627	4822 130 11397	BAS316
6701	4822 130 11397	BAS316
6745	4822 130 11551	UDZS10B
6950	4822 130 11416	PDZ6.8B
6951	4822 130 11416	PDZ6.8B
6953	4822 130 11416	PDZ6.8B
6954	4822 130 11416	PDZ6.8B
6955	4822 130 11416	PDZ6.8B
6956	4822 130 11416	PDZ6.8B
6957	4822 130 11416	PDZ6.8B
6958	4822 130 11416	PDZ6.8B
6959	4822 130 11416	PDZ6.8B
6960	9340 548 61115	PDZ12B
6961	4822 130 11416	PDZ6.8B
6962	4822 130 11416	PDZ6.8B

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7100	4822 130 44568	BC557B
7101	4822 130 40981	BC337-25
7102	4822 130 11417	STP3NB60FP
7103▲	9322 149 04682	TCET1102
7130	5322 130 60159	BC846B
7131	4822 130 11336	STP16NE06FP
7132	5322 130 60159	BC846B
7133	4822 130 60373	BC856B
7140	5322 130 60159	BC846B
7141	4822 130 11336	STP16NE06FP
7210	5322 130 60159	BC846B
7211	4822 130 42804	BC817-25
7408	5322 130 44647	BC368
7409	5322 130 60159	BC846B
7421	9340 210 30127	BU2520DX
7440	4822 209 70672	LM358N SEL.
7441	4822 130 60373	BC856B
7442	4822 130 60373	BC856B
7443	5322 130 60159	BC846B
7445	5322 130 60159	BC846B
7450	5322 209 61472	LM393M
7455	4822 209 73852	PMBT2369
7480	4822 130 11417	STP3NB60FP
7482▲	4822 130 11418	TCDT1102G
7486	5322 130 60159	BC846B
7487	5322 130 60159	BC846B
7501	5322 130 60159	BC846B
7502	4822 130 40959	BC547B
7504	9322 126 65687	STP5NB60FP
7506	4822 209 14933	TL431IZ
7507	9322 149 04682	TCET1102
7528	4822 130 40981	BC337-25
7529	4822 130 44461	BC546B
7530	5322 130 60159	BC846B
7611	5322 130 60159	BC846B
7612	5322 130 60159	BC846B
7613	4822 209 81397	TL431CLPST
7614	5322 130 60159	BC846B
7620	4822 209 90009	TDA8177
7641	5322 130 60159	BC846B
7653	5322 130 60159	BC846B
7654	4822 130 60373	BC856B
7680	4822 209 60956	TDA7052/N2
7681	5322 130 60159	BC846B
7682	5322 130 44647	BC368
7700	9322 163 86682	TDA7490L
7701	5322 130 60159	BC846B
7702	9322 163 86682	TDA7490L
7703	5322 130 60159	BC846B
7704	5322 130 60159	BC846B
7705	5322 130 60159	BC846B
7706	4822 130 60373	BC856B
7707	5322 130 60159	BC846B
7902	5322 130 60159	BC846B
7908	5322 130 60159	BC846B
7910	9322 166 03682	LD1085V36
7911	4822 209 72042	L78L05ACZ

Small Signal Panel [B]

Various

0072	3104 301 24191	Frame SSB A-side
0073	3104 301 24211	Cover SSB A-side
0074	3104 301 24221	Cover SSB Z-side
0075	3104 301 24201	Frame SSB Z-side
0265	3104 304 22841	FFC relieve
1001	2422 543 89022	Crystal 6MHz 20pF CX5F
1301	2422 540 98456	Resonator 12MHz CSTCV
1305	2422 543 01184	Crystal 4.433619MHz 20pF
1308	2422 543 01183	Crystal 3.579545MHz 16pF
1402	2422 025 16966	Connector 5P m v 2.00 SMD
1403▲	2422 086 11031	Fuse SMD 500mA 63V
1403▲	2422 086 11092	Fuse F0.5A 50V 1206
1407	2422 549 44324	Filt.5M5/5M74TPWCC04BS
1408	2422 549 44372	Filt. SAW 38.9MHz K3953L
1409	2422 549 44369	Filt. SAW 38.9MHz K9656L
1651	2422 543 89019	Crystal 18.432MHz 12pF
1680	2422 025 16961	Connector 6p m
1681	2422 025 17103	Connector 3p m
1682	2422 025 16729	Connector FFC 10p m
1702	2422 540 98456	Resonator 12MHz CSTCV
8402	3104 311 04711	Cable 5P/180/5P
8680	3104 311 04991	Cable 6P/400/6P
8682	3104 311 02951	Cable foil 10P/280/10P

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2001	2222 867 15339	33pF 5% 50V 0603
2002	4822 126 11669	27pF 5% 50V 0603
2003	4822 126 13879	220nF 20% 16V
2004	4822 126 13879	220nF 20% 16V
2005	2238 586 59812	100nF 20-80% 50V 0603
2006	2238 586 59812	100nF 20-80% 50V 0603
2007	2238 586 59812	100nF 20-80% 50V 0603
2008	2238 586 59812	100nF 20-80% 50V 0603
2010	4822 126 11785	47pF 5% 50V 0603
2011	4822 126 11785	47pF 5% 50V 0603
2012	4822 126 11785	47pF 5% 50V 0603
2013	4822 124 12095	100µF 20% 16V
2016	4822 124 12095	100µF 20% 16V
2017	2238 586 59812	100nF 20-80% 50V 0603
2019	2238 586 59812	100nF 20-80% 50V 0603
2020	4822 126 13883	220pF 5% 50V
2022	2238 586 59812	100nF 20-80% 50V 0603
2023	2238 586 59812	100nF 20-80% 50V 0603
2024	2238 586 59812	100nF 20-80% 50V 0603
2025	2238 586 59812	100nF 20-80% 50V 0603
2026	2238 586 59812	100nF 20-80% 50V 0603
2027	2238 586 59812	100nF 20-80% 50V 0603
2028	2238 586 59812	100nF 20-80% 50V 0603
2029	2238 586 59812	100nF 20-80% 50V 0603
2031	2238 586 59812	100nF 20-80% 50V 0603

2033	4822 126 14226	82pF 5% 50V 0603
2034	4822 126 14226	82pF 5% 50V 0603
2035	4822 126 14226	82pF 5% 50V 0603
2036	4822 126 14226	82pF 5% 50V 0603
2037	4822 126 14226	82pF 5% 50V 0603
2038	2238 586 59812	100nF 20-80% 50V 0603
2039	2238 586 59812	100nF 20-80% 50V 0603
2040	2238 586 59812	100nF 20-80% 50V 0603
2302	2238 586 59812	100nF 20-80% 50V 0603
2303	2020 552 96448	1μF 10% 16V
2304	4822 122 33741	10pF 10% 50V
2305	2238 586 59812	100nF 20-80% 50V 0603
2306	4822 126 13881	470pF 5% 50V
2307	2238 586 59812	100nF 20-80% 50V 0603
2308	4822 122 33741	10pF 10% 50V
2312	2020 552 96659	33nF 5% 50V 1206
2313	2020 552 96685	100nF 5% 25V 1206
2314	4822 124 12095	100μF 20% 16V
2315	2238 586 59812	100nF 20-80% 50V 0603
2316	2238 586 59812	100nF 20-80% 50V 0603
2317	2020 552 96448	1μF 10% 16V
2318	2238 916 15641	22nF 10% 25V 0603
2318	4822 126 14494	22nF 10% 25V 0603
2319	4822 126 14247	1.5nF 50V 0603
2320	4822 122 33741	10pF 10% 50V
2321	2238 586 59812	100nF 20-80% 50V 0603
2322	2238 586 59812	100nF 20-80% 50V 0603
2323	2238 586 59812	100nF 20-80% 50V 0603
2324	5322 126 11583	10nF 10% 50V 0603
2325	2238 586 59812	100nF 20-80% 50V 0603
2326	5322 126 11583	10nF 10% 50V 0603
2327	4822 051 30759	75Ω 5% 0.062W
2328	4822 122 33761	22pF 5% 50V
2329	2238 586 59812	100nF 20-80% 50V 0603
2330	2238 586 59812	100nF 20-80% 50V 0603
2331	2238 586 59812	100nF 20-80% 50V 0603
2332	2238 586 59812	100nF 20-80% 50V 0603
2333	4822 126 14491	2.2μF -20+80% 10V 0805
2334	4822 126 14491	2.2μF -20+80% 10V 0805
2336	4822 126 14491	2.2μF -20+80% 10V 0805
2340	4822 124 12095	100μF 20% 16V
2350	2238 586 59812	100nF 20-80% 50V 0603
2351	2238 586 59812	100nF 20-80% 50V 0603
2352	2238 586 59812	100nF 20-80% 50V 0603
2353	2238 586 59812	100nF 20-80% 50V 0603
2354	2238 586 59812	100nF 20-80% 50V 0603
2355	4822 051 30759	75Ω 5% 0.062W
2356	2238 586 59812	100nF 20-80% 50V 0603
2357	2238 586 59812	100nF 20-80% 50V 0603
2358	5322 126 11579	3.3nF 10% 63V
2359	4822 122 33752	15pF 5% 50V
2360	3198 016 31280	1.2pF 50V 0603
2361	3198 016 31280	1.2pF 50V 0603
2362	4822 126 11663	12pF 5% 50V 0603
2363	4822 126 13881	470pF 5% 50V
2364	4822 051 30759	75Ω 5% 0.062W
2365	2238 586 59812	100nF 20-80% 50V 0603
2366	2238 586 59812	100nF 20-80% 50V 0603
2367	2238 586 59812	100nF 20-80% 50V 0603
2368	2238 586 59812	100nF 20-80% 50V 0603
2369	2238 586 59812	100nF 20-80% 50V 0603
2370	2238 586 59812	100nF 20-80% 50V 0603
2371	4822 126 13193	4.7nF 10% 63V
2372	4822 126 14043	1μF 20% 16V
2373	2238 586 59812	100nF 20-80% 50V 0603
2374	4822 126 14491	2.2μF -20+80% 10V 0805
2375	2238 916 15641	22nF 10% 25V 0603
2375	4822 126 14494	22nF 10% 25V 0603
2376	2238 586 59812	100nF 20-80% 50V 0603
2377	4822 124 12095	100μF 20% 16V
2378	2238 586 59812	100nF 20-80% 50V 0603
2383	4822 051 30759	75Ω 5% 0.062W
2384	2238 586 59812	100nF 20-80% 50V 0603
2385	2238 586 59812	100nF 20-80% 50V 0603
2386	4822 126 13883	220pF 5% 50V
2390	2238 586 59812	100nF 20-80% 50V 0603
2391	2238 586 59812	100nF 20-80% 50V 0603
2392	4822 126 13193	4.7nF 10% 63V
2394	4822 126 14491	2.2μF -20+80% 10V 0805
2404	2020 552 96448	1μF 10% 16V
2405	4822 126 13193	4.7nF 10% 63V
2406	4822 126 13883	220pF 5% 50V
2407	4822 126 13956	68pF 5% 63V 0603
2408	3198 016 32780	2.7pF 50V 0603 NP0
2409	4822 126 14491	2.2μF -20+80% 10V 0805
2411	2238 586 59812	100nF 20-80% 50V 0603
2412	4822 126 13193	4.7nF 10% 63V
2417	3198 017 44740	470nF 10V 0603
2418	4822 126 13956	68pF 5% 63V 0603
2420	4822 122 33753	150pF 5% 50V
2422	2238 586 59812	100nF 20-80% 50V 0603
2424	2238 586 59812	100nF 20-80% 50V 0603
2425	4822 124 12095	100μF 20% 16V
2431	2238 586 59812	100nF 20-80% 50V 0603
2501	4822 126 11785	47pF 5% 50V 0603
2502	4822 126 14107	330nF +-80/20% 25V
2503	4822 126 14107	330nF +-80/20% 25V
2504	4822 126 14107	330nF +-80/20% 25V
2505	4822 126 14107	330nF +-80/20% 25V
2506	4822 126 14107	330nF +-80/20% 25V
2507	4822 126 14107	330nF +-80/20% 25V
2508	4822 124 12095	100μF 20% 16V
2509	4822 124 23002	10μF 20% 16V
2510	2020 552 96448	1μF 10% 16V
2511	2020 552 96448	1μF 10% 16V
2512	4822 126 13879	220nF 20% 16V
2513	3198 030 74780	4u7 20% 35V
2513	4822 124 12084	1μF 20% 50V SMD
2515	2020 552 94427	100pF 5% 50v 0603
2516	2020 552 96221	10μF 20% 6.3V 0805
2516	2020 552 96448	1μF 10% 16V
2516	4822 126 14491	2.2μF -20+80% 10V 0805
2520	2238 586 59812	100nF 20-80% 50V 0603
2521	2238 586 59812	100nF 20-80% 50V 0603
2522	4822 126 13881	470pF 5% 50V
2523	3198 016 31020	1nF 25V 0603
2524	2238 586 59812	100nF 20-80% 50V 0603
2525	4822 126 13881	470pF 5% 50V
2526	3198 016 31020	1nF 25V 0603
2528	4822 126 14585	100nF 10% 50V
2529	4822 126 14472	1μF 10% 10V 0805
2530	4822 126 14472	1μF 10% 10V 0805
2546	4822 124 23002	10μF 20% 16V
2547	4822 124 23002	10μF 20% 16V
2548	4822 124 23002	10μF 20% 16V
2549	4822 124 23002	10μF 20% 16V
2550	4822 126 14241	330pF 50V 0603
2552	4822 126 13881	470pF 5% 50V
2553	4822 126 13881	470pF 5% 50V
2554	4822 126 13881	470pF 5% 50V
2555	4822 126 13881	470pF 5% 50V
2562	3198 016 31020	1nF 25V 0603
2563	3198 016 31020	1nF 25V 0603
2564	3198 016 31020	1nF 25V 0603
2565	3198 016 31020	1nF 25V 0603
2566	3198 016 31020	1nF 25V 0603
2567	3198 016 31020	1nF 25V 0603
2568	3198 016 31020	1nF 25V 0603
2569	3198 016 31020	1nF 25V 0603
2570	3198 016 31020	1nF 25V 0603
2571	2020 552 94427	100pF 5% 50v 0603
2571	4822 051 30759	75Ω 5% 0.062W
2572	3198 016 31020	1nF 25V 0603
2573	3198 016 31020	1nF 25V 0603
2574	3198 016 31020	1nF 25V 0603
2575	3198 016 31020	1nF 25V 0603
2576	3198 016 31020	1nF 25V 0603
2577	3198 016 31020	1nF 25V 0603
2578	2020 552 94427	100pF 5% 50v 0603
2579	2020 552 94427	100pF 5% 50v 0603
2580	3198 016 31020	1nF 25V 0603
2581	3198 016 31020	1nF 25V 0603
2582	3198 016 31020	1nF 25V 0603
2583	3198 016 31020	1nF 25V 0603
2592	5322 126 11578	1nF 10% 50V 0603
2593	3198 016 31020	1nF 25V 0603
2594	3198 016 31020	1nF 25V 0603
2595	3198 016 31020	1nF 25V 0603
2600	2020 552 96448	1μF 10% 16V
2601	2020 552 96448	1μF 10% 16V
2602	2020 552 96448	1μF 10% 16V
2603	2020 552 96448	1μF 10% 16V
2604	2020 552 96448	1μF 10% 16V
2609	3198 016 31020	1nF 25V 0603
2610	4822 126 14238	2.2nF 50V 0603
2611	3198 016 31020	1nF 25V 0603
2629	4822 126 14107	330nF +-80/20% 25V
2630	4822 126 14491	2.2μF -20+80% 10V 0805
2632	4822 126 14107	330nF +-80/20% 25V
2634	3198 016 31020	1nF 25V 0603
2637	4822 126 14107	330nF +-80/20% 25V
2640	4822 126 13879	220nF 20% 16V
2643	4822 126 14107	330nF +-80/20% 25V
2644	3198 016 31020	1nF 25V 0603
2645	4822 126 14107	330nF +-80/20% 25V
2646	4822 126 14491	2.2μF -20+80% 10V 0805
2649	4822 126 14491	2.2μF -20+80% 10V 0805
2651	2238 586 59812	100nF 20-80% 50V 0603
2652	4822 126 11785	47pF 5% 50V 0603
2653	4822 126 14107	330nF +-80/20% 25V
2654	4822 126 13881	470pF 5% 50V
2659	4822 126 13881	470pF 5% 50V
2660	4822 126 13881	470pF 5% 50V
2661	4822 126 14107	330nF +-80/20% 25V
2662	4822 126 14107	330nF +-80/20% 25V
2663	4822 126 13881	470pF 5% 50V
2664	4822 126 13881	470pF 5% 50V
2665	4822 124 12095	100μF 20% 16V
2666	4822 124 12095	100μF 20% 16V
2667	3198 016 33380	3.3pF 50V 0603
2668	3198 016 33380	3.3pF 50V 0603
2670	2238 586 59812	100nF 20-80% 50V 0603
2673	3198 016 31020	1nF 25V 0603
2674	3198 016 31020	1nF 25V 0603
2677	4822 124 23002	10μF 20% 16V
2678	4822 124 23002	10μF 20% 16V
2679	2238 586 59812	100nF 20-80% 50V 0603
2680	4822 124 23002	10μF 20% 16V
2681	2238 586 59812	100nF 20-80% 50V 0603
2682	4822 124 23002	10μF 20% 16V
2686	3198 016 31020	1nF 25V 0603
2687	3198 016 31020	1nF 25V 0603
2690	2238 586 59812	100nF 20-80% 50V 0603
2691	4822 126 14491	2.2μF -20+80% 10V 0805
2693	4822 126 13883	220pF 5% 50V
2694	3198 016 31020	1nF 25V 0603
2695	4822 124 12095	100μF 20% 16V
2697	2238 586 59812	100nF 20-80% 50V 0603
2698	4822 126 14491	2.2μF -20+80% 10V 0805
2699	4822 126 14491	2.2μF -20+80% 10V 0805
2701	4822 122 33752	15pF 5% 50V
2704	4822 126 14507	18pF 5% 50V 0603
2707	4822 126 14507	18pF 5% 50V 0603
2709	2238 586 59812	100nF 20-80% 50V 0603
2710	2238 586 59812	100nF 20-80% 50V 0603
2711	2238 586 59812	100nF 20-80% 50V 0603
2712	2238 586 59812	100nF 20-80% 50V 0603
2713	4822 122 33761	22pF 5% 50V
2714	4822 122 33761	22pF 5% 50V
2716	2238 586 59812	100nF 20-80% 50V 0603
2717	4822 126 11663	12pF 5% 50V 0603
2718	4822 122 33752	15pF 5% 50V
2719	4822 122 33752	15pF 5% 50V
2720	4822 122 33752	15pF 5% 50V
2721	2020 552 94427	100pF 5% 50v 0603
2722	2020 552 94427	100pF 5% 50v 0603
2723	4822 126 14225	56pF 5% 50V 0603
2724	2020 552 94427	100pF 5% 50v 0603
2725	4822 126 11663	12pF 5% 50V 0603
2726	4822 126 11669	27pF 5% 50V 0603
2727	4822 126 11663	12pF 5% 50V 0603
2728	2020 021 91554	10μF 20% 16V
2729	2238 586 59812	100nF 20-80% 50V 0603
2730	2020 021 91557	100μF 20% 16V
2731	2238 586 59812	100nF 20-80% 50V 0603
2732	2238 586 59812	100nF 20-80% 50V 0603
2733	2238 586 59812	100nF 20-80% 50V 0603
2734	2238 586 59812	100nF 20-80% 50V 0603
2735	2238 586 59812	100nF 20-80% 50V 0603
2736	4822 126 11669	27pF 5% 50V 0603
2737	4822 126 11663	12pF 5% 50V 0603
2738	4822 126 11663	12pF 5% 50V 0603
2739	4822 126 11669	27pF 5% 50V 0603
2740	2238 916 15641	22nF 10% 25V 0603
2740	4822 126 14494	22nF 10% 25V 0603
2741	2238 916 15641	22nF 10% 25V 0603
2741	4822 126 14494	22nF 10% 25V 0603
2742	2238 916 15641	22nF 10% 25V 0603
2742	4822 126 14494	22nF 10% 25V 0603
2743	2238 586 59812	100nF 20-80% 50V 0603
2744	2238 586 59812	100nF 20-80% 50V 0603
2745	2238 586 59812	100nF 20-80% 50V 0603
2746	2238 586 59812	100nF 20-80% 50V 0603
2747	2238 586 59812	100nF 20-80% 50V 0603
2748	2238 586 59812	100nF 20-80% 50V 0603
2749	2020 021 91554	10μF 20% 16V
2750	2238 586 59812	100nF 20-80% 50V 0603
2751	2238 586 59812	100nF 20-80% 50V 0603
2752	2238 586 59812	100nF 20-80% 50V 0603
2753	2238 586 59812	100nF 20-80% 50V 0603
2754	2238 586 59812	100nF 20-80% 50V 0603
2755	2238 586 59812	100nF 20-80% 50V 0603
2756	2238 586 59812	100nF 20-80% 50V 0603
2757	2238 916 15641	22nF 10% 25V 0603
2757	4822 126 14494	22nF 10% 25V 0603
2760	2238 586 59812	100nF 20-80% 50V 0603
2761	2238 586 59812	100nF 20-80% 50V 0603
2762	2238 586 59812	100nF 20-80% 50V 0603
2763	2238 586 59812	100nF 20-80% 50V 0603
2764	2238 586 59812	100nF 20-80% 50V 0603
2765	2238 586 59812	100nF 20-80% 50V 0603
2766	2238 586 59812	100nF 20-80% 50V 0603
2767	2238 586 59812	100nF 20-80% 50V 0603
2768	2238 586 59812	100nF 20-80% 50V 0603
2769	2238 586 59812	100nF 20-80% 50V 0603
2770	2020 021 91554	10μF 20% 16V
2771	2238 586 59812	100nF 20-80% 50V 0603
2772	2020 021 91557	100μF 20% 16V
2773	2238 586 59812	100nF 20-80% 50V 0603
2774	2238 586 59812	100nF 20-80% 50V 0603
2774	3198 017 44740	470nF 10V 0603
2775	2238 586 59812	100nF 20-80% 50V 0603

2776	2238 586 59812	100nF 20-80% 50V 0603
2777	2238 586 59812	100nF 20-80% 50V 0603
2778	2238 586 59812	100nF 20-80% 50V 0603
2779	2238 586 59812	100nF 20-80% 50V 0603
2780	2238 586 59812	100nF 20-80% 50V 0603
2781	2238 586 59812	100nF 20-80% 50V 0603
2782	2238 586 59812	100nF 20-80% 50V 0603
2783	2238 586 59812	100nF 20-80% 50V 0603
2784	2238 586 59812	100nF 20-80% 50V 0603
2785	2238 586 59812	100nF 20-80% 50V 0603
2786	2238 586 59812	100nF 20-80% 50V 0603
2787	2238 586 59812	100nF 20-80% 50V 0603
2788	2238 586 59812	100nF 20-80% 50V 0603
2789	2238 586 59812	100nF 20-80% 50V 0603
2790	2238 586 59812	100nF 20-80% 50V 0603
2791	2238 586 59812	100nF 20-80% 50V 0603
2792	2020 021 91554	10µF 20% 16V
2793	2238 586 59812	100nF 20-80% 50V 0603
2794	2020 021 91554	10µF 20% 16V
2795	2238 586 59812	100nF 20-80% 50V 0603
2796	2238 586 59812	100nF 20-80% 50V 0603
2797	2238 586 59812	100nF 20-80% 50V 0603
2798	2238 586 59812	100nF 20-80% 50V 0603
2799	2238 586 59812	100nF 20-80% 50V 0603
2800	2238 586 59812	100nF 20-80% 50V 0603
2801	2238 586 59812	100nF 20-80% 50V 0603
2802	2238 586 59812	100nF 20-80% 50V 0603
2803	2238 586 59812	100nF 20-80% 50V 0603
2804	2238 586 59812	100nF 20-80% 50V 0603
2805	2238 586 59812	100nF 20-80% 50V 0603
2807	2238 586 59812	100nF 20-80% 50V 0603
2808	2020 021 91554	10µF 20% 16V
2809	2238 586 59812	100nF 20-80% 50V 0603
2810	2238 586 59812	100nF 20-80% 50V 0603
2811	2238 586 59812	100nF 20-80% 50V 0603
2812	2238 586 59812	100nF 20-80% 50V 0603
2813	2238 586 59812	100nF 20-80% 50V 0603
2814	2238 586 59812	100nF 20-80% 50V 0603
2815	4822 126 14223	2.2pF +-0.25pF 50V 0603
2816	4822 126 14223	2.2pF +-0.25pF 50V 0603
2817	2238 586 59812	100nF 20-80% 50V 0603
2818	4822 126 14223	2.2pF +-0.25pF 50V 0603
2819	2238 586 59812	100nF 20-80% 50V 0603
2820	2238 586 59812	100nF 20-80% 50V 0603
2821	2238 586 59812	100nF 20-80% 50V 0603
2822	2238 586 59812	100nF 20-80% 50V 0603
2823	5322 126 11578	1nF 10% 50V 0603
2824	5322 126 11578	1nF 10% 50V 0603
2825	2238 586 59812	100nF 20-80% 50V 0603
2826	2238 586 59812	100nF 20-80% 50V 0603
2827	2238 586 59812	100nF 20-80% 50V 0603
2828	2238 586 59812	100nF 20-80% 50V 0603
2829	2238 586 59812	100nF 20-80% 50V 0603
2830	2238 586 59812	100nF 20-80% 50V 0603
2831	4822 126 13956	68pF 5% 63V 0603
2832	2238 586 59812	100nF 20-80% 50V 0603
2833	2238 586 59812	100nF 20-80% 50V 0603
2835	2238 586 59812	100nF 20-80% 50V 0603
2838	2238 586 59812	100nF 20-80% 50V 0603
2843	2238 586 59812	100nF 20-80% 50V 0603
2845	2238 586 59812	100nF 20-80% 50V 0603
2846	2238 586 59812	100nF 20-80% 50V 0603
2847	2238 586 59812	100nF 20-80% 50V 0603
2848	2238 586 59812	100nF 20-80% 50V 0603
2851	2238 586 59812	100nF 20-80% 50V 0603
2853	2238 586 59812	100nF 20-80% 50V 0603
2854	2238 586 59812	100nF 20-80% 50V 0603
2855	2238 586 59812	100nF 20-80% 50V 0603
2857	2238 586 59812	100nF 20-80% 50V 0603
2859	2238 586 59812	100nF 20-80% 50V 0603
2860	2238 586 59812	100nF 20-80% 50V 0603
2861	2238 586 59812	100nF 20-80% 50V 0603
2864	2238 586 59812	100nF 20-80% 50V 0603
2865	2238 586 59812	100nF 20-80% 50V 0603
2866	2238 586 59812	100nF 20-80% 50V 0603
2867	2238 586 59812	100nF 20-80% 50V 0603
2870	2020 021 91554	10µF 20% 16V
2871	2020 021 91554	10µF 20% 16V
2872	2238 586 59812	100nF 20-80% 50V 0603
2874	2020 021 91554	10µF 20% 16V
2875	2020 021 91554	10µF 20% 16V
2876	2238 586 59812	100nF 20-80% 50V 0603
2878	2020 552 94427	100pF 5% 50v 0603
2880	2020 021 91557	100µF 20% 16V
2881	4822 126 11669	27pF 5% 50V 0603
2884	2238 586 59812	100nF 20-80% 50V 0603
2885	4822 126 11663	12pF 5% 50V 0603
2886	2238 586 59812	100nF 20-80% 50V 0603
2887	2238 586 59812	100nF 20-80% 50V 0603
2888	2238 586 59812	100nF 20-80% 50V 0603
2889	2238 586 59812	100nF 20-80% 50V 0603
2890	2238 586 59812	100nF 20-80% 50V 0603
2891	2238 586 59812	100nF 20-80% 50V 0603
2892	2238 586 59812	100nF 20-80% 50V 0603
2893	2238 586 59812	100nF 20-80% 50V 0603
2894	2238 586 59812	100nF 20-80% 50V 0603
2895	2238 586 59812	100nF 20-80% 50V 0603
2896	2238 586 59812	100nF 20-80% 50V 0603
2897	2238 586 59812	100nF 20-80% 50V 0603
2898	2238 586 59812	100nF 20-80% 50V 0603
2899	2238 586 59812	100nF 20-80% 50V 0603
2908	2238 586 59812	100nF 20-80% 50V 0603
2909	2238 586 59812	100nF 20-80% 50V 0603
2910	2238 586 59812	100nF 20-80% 50V 0603
2911	2238 586 59812	100nF 20-80% 50V 0603
2912	2238 586 59812	100nF 20-80% 50V 0603
2912	3198 017 44740	470nF 10V 0603

–WW–

3001	4822 051 30472	4.7kΩ 5% 0.062W
3002	4822 051 30472	4.7kΩ 5% 0.062W
3003	4822 117 13525	24kΩ 1% 0.62W 0603
3005	4822 051 30103	10kΩ 5% 0.062W
3006	4822 051 30471	470Ω 5% 0.062W
3007	3198 031 14710	4 x 470Ω 5% 1206
3008	4822 117 13526	150Ω 5% 0.63W
3009	4822 117 13501	82Ω 5% 0.62W 0603
3011	4822 051 30471	470Ω 5% 0.062W
3012	3198 031 11010	4 x 100Ω 5% 1206
3013	4822 051 30103	10kΩ 5% 0.062W
3014	4822 051 30682	6.8kΩ 5% 0.062W
3015	4822 051 30474	470kΩ 5% 0.062W
3016	4822 051 30152	1.5kΩ 5% 0.062W
3017	4822 051 30472	4.7kΩ 5% 0.062W
3018	4822 051 30103	10kΩ 5% 0.062W
3019	4822 051 30472	4.7kΩ 5% 0.062W
3020	4822 051 30103	10kΩ 5% 0.062W
3021	4822 051 30103	10kΩ 5% 0.062W
3024	4822 051 30273	27kΩ 5% 0.062W
3025	4822 051 30221	220Ω 5% 0.062W
3026	4822 051 30472	4.7kΩ 5% 0.062W
3027	4822 117 12925	47kΩ 1% 0.063W 0603
3029	4822 051 30103	10kΩ 5% 0.062W
3031	4822 051 30103	10kΩ 5% 0.062W
3033	4822 051 30103	10kΩ 5% 0.062W
3034	3198 031 11010	4 x 100Ω 5% 1206
3035	3198 031 11010	4 x 100Ω 5% 1206
3039	4822 051 30181	180Ω 5% 0.062W
3040	4822 051 30472	4.7kΩ 5% 0.062W
3042	4822 051 30472	4.7kΩ 5% 0.062W
3044	4822 051 30272	2.7kΩ 5% 0.062W
3048	3198 031 11010	4 x 100Ω 5% 1206
3049	3198 031 11010	4 x 100Ω 5% 1206
3050	3198 031 11010	4 x 100Ω 5% 1206
3051	3198 031 11010	4 x 100Ω 5% 1206
3052	3198 031 11010	4 x 100Ω 5% 1206
3053	4822 051 30101	100Ω 5% 0.062W
3054	3198 031 11010	4 x 100Ω 5% 1206
3055	3198 031 11010	4 x 100Ω 5% 1206
3056	3198 031 11010	4 x 100Ω 5% 1206
3057	3198 031 11010	4 x 100Ω 5% 1206
3059	2322 704 66201	620Ω 1% 0603
3061	4822 051 30103	10kΩ 5% 0.062W
3062	4822 051 30103	10kΩ 5% 0.062W
3064	3198 031 11010	4 x 100Ω 5% 1206
3065	4822 051 30472	4.7kΩ 5% 0.062W
3066	4822 117 12925	47kΩ 1% 0.063W 0603
3067	4822 051 30474	470kΩ 5% 0.062W
3068	4822 051 30272	2.7kΩ 5% 0.062W
3069	4822 051 30272	2.7kΩ 5% 0.062W
3073	3198 031 14710	4 x 470Ω 5% 1206
3074	3198 031 14710	4 x 470Ω 5% 1206
3076	3198 031 14710	4 x 470Ω 5% 1206
3078	3198 031 14710	4 x 470Ω 5% 1206
3079	4822 051 30472	4.7kΩ 5% 0.062W
3080	4822 051 30472	4.7kΩ 5% 0.062W
3081	4822 051 30008	Jumper 0603
3088	4822 051 30472	4.7kΩ 5% 0.062W
3090	3198 031 14710	4 x 470Ω 5% 1206
3093	4822 051 30103	10kΩ 5% 0.062W
3094	4822 117 12925	47kΩ 1% 0.063W 0603
3095	4822 117 12925	47kΩ 1% 0.063W 0603
3096	4822 117 12925	47kΩ 1% 0.063W 0603
3097	4822 051 30008	Jumper 0603
3099	3198 031 14710	4 x 470Ω 5% 1206
3301	4822 117 13632	100kΩ 1% 0603 0.62W
3302	4822 051 30102	1kΩ 5% 0.062W
3303	4822 117 13632	100kΩ 1% 0603 0.62W
3304⚠	2322 750 63908	3.9Ω 5% Fuse 1206
3306	4822 051 30221	220Ω 5% 0.062W
3307	4822 051 30183	18kΩ 5% 0.062W
3308	4822 051 20154	150kΩ 5% 0.1W
3310	4822 051 30563	56kΩ 5% 0.062W
3311	4822 117 13632	100kΩ 1% 0603 0.62W
3312	4822 117 13632	100kΩ 1% 0603 0.62W
3313	4822 117 13632	100kΩ 1% 0603 0.62W
3314	4822 051 30103	10kΩ 5% 0.062W
3315	4822 051 30102	1kΩ 5% 0.062W
3316	4822 117 10834	47kΩ 1% 0.1W
3317	4822 051 30221	220Ω 5% 0.062W
3318	4822 051 30102	1kΩ 5% 0.062W
3319	4822 051 30102	1kΩ 5% 0.062W
3320	4822 051 30101	100Ω 5% 0.062W
3321	4822 051 30101	100Ω 5% 0.062W
3322	4822 051 10102	1kΩ 2% 0.25W
3323	4822 117 12925	47kΩ 1% 0.063W 0603
3324	4822 051 30472	4.7kΩ 5% 0.062W
3327	4822 117 13632	100kΩ 1% 0603 0.62W
3328	4822 051 30393	39kΩ 5% 0.062W
3329	4822 117 13568	6.8Ω 5% 1206
3331	4822 051 30102	1kΩ 5% 0.062W
3333	4822 051 30102	1kΩ 5% 0.062W
3334	4822 051 30102	1kΩ 5% 0.062W
3336	4822 051 30102	1kΩ 5% 0.062W
3340	4822 051 30101	100Ω 5% 0.062W
3341	4822 051 30101	100Ω 5% 0.062W
3342	4822 051 30101	100Ω 5% 0.062W
3343	4822 051 20683	68kΩ 5% 0.1W
3344	4822 051 30222	2.2kΩ 5% 0.062W
3345	4822 051 30103	10kΩ 5% 0.062W
3346	4822 051 30333	33kΩ 5% 0.062W
3347	4822 051 30223	22kΩ 5% 0.062W
3348	4822 051 30222	2.2kΩ 5% 0.062W
3349	4822 051 30472	4.7kΩ 5% 0.062W
3362	4822 051 30684	680kΩ 5% 0.062W
3363	4822 051 30102	1kΩ 5% 0.062W
3364	4822 051 30103	10kΩ 5% 0.062W
3365	4822 051 30103	10kΩ 5% 0.062W
3366	4822 051 30221	220Ω 5% 0.062W
3367	4822 051 30221	220Ω 5% 0.062W
3368	3198 021 32250	2M2 5% 0603
3370	4822 051 30101	100Ω 5% 0.062W
3371	4822 051 30479	47Ω 5% 0.062W
3372	4822 051 30471	470Ω 5% 0.062W
3373	4822 051 30008	Jumper 0603
3374	4822 051 30008	Jumper 0603
3375	4822 051 30008	Jumper 0603
3376	4822 051 30101	100Ω 5% 0.062W
3377	4822 051 30101	100Ω 5% 0.062W
3378	4822 051 30153	15kΩ 5% 0.062W
3379	4822 051 30008	Jumper 0603
3380	4822 051 30101	100Ω 5% 0.062W
3382	4822 051 30561	560Ω 5% 0.062W
3385	4822 051 30471	470Ω 5% 0.062W
3386	4822 051 30223	22kΩ 5% 0.062W
3390	4822 051 30221	220Ω 5% 0.062W
3391	4822 051 30472	4.7kΩ 5% 0.062W
3393	4822 117 13632	100kΩ 1% 0603 0.62W
3394	4822 051 30472	4.7kΩ 5% 0.062W
3400	4822 117 11152	4.7Ω 5% 0.062W
3402⚠	2322 750 63908	3.9Ω 5% Fuse 1206
3403	4822 051 30101	100Ω 5% 0.062W
3404	4822 051 30561	560Ω 5% 0.062W
3405	4822 051 30102	1kΩ 5% 0.062W
3406	2322 702 60279	27Ω 5% 0.1W 0603
3408	4822 051 30101	100Ω 5% 0.062W
3411	4822 051 30272	2.7kΩ 5% 0.062W
3412	4822 051 30102	1kΩ 5% 0.062W
3414	4822 051 30472	4.7kΩ 5% 0.062W
3415	4822 051 30222	2.2kΩ 5% 0.062W
3418	4822 051 30391	390Ω 5% 0.062W
3419	4822 051 30339	33Ω 5% 0.062W
3435	4822 051 30472	4.7kΩ 5% 0.062W
3436	4822 051 30181	180Ω 5% 0.062W
3437	4822 051 30471	470Ω 5% 0.062W
3439	4822 051 30471	470Ω 5% 0.062W
3441	4822 051 30562	5.6kΩ 5% 0.063W 0603
3445	4822 051 30271	270Ω 5% 0.062W
3446	4822 051 30101	100Ω 5% 0.062W
3463	4822 051 30472	4.7kΩ 5% 0.062W
3468	4822 117 13632	100kΩ 1% 0603 0.62W
3472	4822 051 30223	22kΩ 5% 0.062W
3500	4822 051 30153	15kΩ 5% 0.062W
3501	4822 051 20479	47Ω 5% 0.1W
3501	4822 157 11716	Bead 30Ω at 100MHz
3504	4822 051 30123	12kΩ 5% 0.062W
3505	4822 051 30153	15kΩ 5% 0.062W
3506	4822 051 20479	47Ω 5% 0.1W
3506	4822 157 11716	Bead 30Ω at 100MHz
3509	4822 051 30123	12kΩ 5% 0.062W
3510	4822 117 12925	47kΩ 1% 0.063W 0603
3511	4822 117 13632	100kΩ 1% 0603 0.62W
3512	4822 051 30154	150k 5% 0.062W
3513	4822 117 12889	270kΩ 1% 0.063W 0603
3514	4822 117 12925	47kΩ 1% 0.063W 0603
3515	4822 117 13632	100kΩ 1% 0603 0.62W
3516	4822 051 30392	3.9kΩ 5% 0.063W 0603
3517	4822 051 30472	4.7kΩ 5% 0.062W
3519	4822 051 30103	10kΩ 5% 0.062W
3520	4822 117 12925	47kΩ 1% 0.063W 0603

3521	4822 117 13632	100kΩ 1% 0603 0.62W
3522	4822 117 13632	100kΩ 1% 0603 0.62W
3523	4822 117 13632	100kΩ 1% 0603 0.62W
3524	4822 117 13632	100kΩ 1% 0603 0.62W
3525	4822 051 30684	680kΩ 5% 0.062W
3526	4822 051 30105	1MΩ 5% 0.062W
3527	4822 051 30101	100Ω 5% 0.062W
3528	4822 051 30103	10kΩ 5% 0.062W
3529	4822 051 30103	10kΩ 5% 0.062W
3530	4822 051 30103	10kΩ 5% 0.062W
3531	4822 117 12902	8.2kΩ 1% 0.063W 0603
3532	4822 051 30102	1kΩ 5% 0.062W
3533	4822 051 30103	10kΩ 5% 0.062W
3540	4822 051 30103	10kΩ 5% 0.062W
3544	4822 117 12925	47kΩ 1% 0.063W 0603
3545	4822 117 11817	1.2kΩ 1% 1/16W
3546	4822 051 30102	1kΩ 5% 0.062W
3547	4822 117 12925	47kΩ 1% 0.063W 0603
3552	4822 051 30103	10kΩ 5% 0.062W
3553	4822 051 30223	22kΩ 5% 0.062W
3554	4822 051 30223	22kΩ 5% 0.062W
3555	4822 051 30223	22kΩ 5% 0.062W
3556	4822 051 30101	100Ω 5% 0.062W
3557	4822 051 30101	100Ω 5% 0.062W
3558	4822 051 30101	100Ω 5% 0.062W
3559	4822 051 30101	100Ω 5% 0.062W
3560	4822 051 30101	100Ω 5% 0.062W
3561	4822 051 30101	100Ω 5% 0.062W
3562	4822 051 30101	100Ω 5% 0.062W
3563	4822 051 30101	100Ω 5% 0.062W
3564	4822 051 30101	100Ω 5% 0.062W
3567	4822 051 30101	100Ω 5% 0.062W
3568	4822 051 30101	100Ω 5% 0.062W
3569	4822 051 30101	100Ω 5% 0.062W
3570	4822 051 30101	100Ω 5% 0.062W
3571	4822 051 30101	100Ω 5% 0.062W
3572	4822 051 30101	100Ω 5% 0.062W
3573	4822 051 30101	100Ω 5% 0.062W
3574	4822 051 30101	100Ω 5% 0.062W
3575	4822 051 30101	100Ω 5% 0.062W
3576	4822 051 30272	2.7kΩ 5% 0.062W
3577	4822 051 30101	100Ω 5% 0.062W
3578	4822 051 30103	10kΩ 5% 0.062W
3579	4822 051 30103	10kΩ 5% 0.062W
3601	4822 051 30223	22kΩ 5% 0.062W
3602	4822 051 30124	120kΩ 5% 0.062W
3603	4822 117 12891	220kΩ 1% 0.063W 0603
3604	4822 051 30124	120kΩ 5% 0.062W
3605	4822 117 12891	220kΩ 1% 0.063W 0603
3606	4822 051 30124	120kΩ 5% 0.062W
3607	4822 117 12891	220kΩ 1% 0.063W 0603
3608	4822 051 30124	120kΩ 5% 0.062W
3609	4822 117 12891	220kΩ 1% 0.063W 0603
3612	4822 117 12925	47kΩ 1% 0.063W 0603
3613	4822 117 12925	47kΩ 1% 0.063W 0603
3614	4822 117 12925	47kΩ 1% 0.063W 0603
3615	4822 117 12925	47kΩ 1% 0.063W 0603
3616	4822 051 30272	2.7kΩ 5% 0.062W
3624	4822 117 11817	1.2kΩ 1% 1/16W
3626	4822 051 30154	150k 5% 0.062W
3627	4822 051 30103	10kΩ 5% 0.062W
3628	4822 051 30223	22kΩ 5% 0.062W
3630	4822 051 30563	56kΩ 5% 0.062W
3634	4822 051 30121	120Ω 5% 0.062W
3636	4822 051 30271	270Ω 5% 0.062W
3637	4822 117 12864	82kΩ 5% 0.6W
3639	4822 051 30102	1kΩ 5% 0.062W
3640	4822 051 30101	100Ω 5% 0.062W
3641	4822 051 30101	100Ω 5% 0.062W
3642	4822 051 30101	100Ω 5% 0.062W
3643	4822 051 30101	100Ω 5% 0.062W
3644	4822 117 11152	4.7Ω 5% 0.062W
3653	4822 051 30008	Jumper 0603
3654	4822 051 30008	Jumper 0603
3655	4822 051 30101	100Ω 5% 0.062W
3656	4822 051 30101	100Ω 5% 0.062W
3657	4822 051 30563	56kΩ 5% 0.062W
3658	4822 051 30154	150k 5% 0.062W
3659	4822 051 30154	150k 5% 0.062W
3663	4822 051 30181	180Ω 5% 0.062W
3664	4822 051 30102	1kΩ 5% 0.062W
3666	4822 051 30154	150k 5% 0.062W
3667	4822 117 12864	82kΩ 5% 0.6W
3668	4822 051 30563	56kΩ 5% 0.062W
3669	4822 051 30271	270Ω 5% 0.062W
3670	4822 051 30102	1kΩ 5% 0.062W
3671	4822 117 11817	1.2kΩ 1% 1/16W
3673	4822 051 30103	10kΩ 5% 0.062W
3675	4822 051 30181	180Ω 5% 0.062W
3676	4822 117 13632	100kΩ 1% 0603 0.62W
3677	4822 117 13632	100kΩ 1% 0603 0.62W
3680	4822 117 11817	1.2kΩ 1% 1/16W
3681	4822 051 30154	150k 5% 0.062W
3682	4822 051 30102	1kΩ 5% 0.062W
3683	4822 051 30223	22kΩ 5% 0.062W
3684	4822 051 30008	Jumper 0603
3685	4822 051 30008	Jumper 0603
3688	4822 051 30008	Jumper 0603
3689	4822 051 30008	Jumper 0603
3692	4822 051 30008	Jumper 0603
3693	4822 051 30008	Jumper 0603
3698	4822 117 11817	1.2kΩ 1% 1/16W
3699	2322 702 60184	180k 5% 0603
3703	5322 117 13062	390R 1% 0.063W 0603
3704	5322 117 13047	330Ω 1% 0.063W 0603
3705	5322 117 13047	330Ω 1% 0.063W 0603
3709	4822 051 30101	100Ω 5% 0.062W
3710	4822 051 30101	100Ω 5% 0.062W
3711	4822 117 12925	47kΩ 1% 0.063W 0603
3712	4822 117 12925	47kΩ 1% 0.063W 0603
3713	4822 051 30181	180Ω 5% 0.062W
3714	4822 051 30181	180Ω 5% 0.062W
3715	4822 051 30181	180Ω 5% 0.062W
3716	4822 117 13632	100kΩ 1% 0603 0.62W
3717	4822 117 13632	100kΩ 1% 0603 0.62W
3718	4822 117 13632	100kΩ 1% 0603 0.62W
3719	4822 051 30332	3.3kΩ 5% 0.062W
3720	4822 051 30103	10kΩ 5% 0.062W
3721	4822 117 12917	1Ω 5% 0.062W 0603
3725	4822 051 30332	3.3kΩ 5% 0.062W
3726	4822 117 11817	1.2kΩ 1% 1/16W
3727	4822 051 30151	150Ω 5% 0.062W
3728	4822 051 30151	150Ω 5% 0.062W
3729	4822 051 30689	68Ω 5% 0.063W 0603
3730	4822 051 30681	680Ω 5% 0.062W
3731	4822 051 30472	4.7kΩ 5% 0.062W
3733	4822 051 30472	4.7kΩ 5% 0.062W
3735	4822 117 12917	1Ω 5% 0.062W 0603
3736	4822 051 30101	100Ω 5% 0.062W
3737	4822 051 30102	1kΩ 5% 0.062W
3738	4822 051 30102	1kΩ 5% 0.062W
3739	4822 051 30153	15kΩ 5% 0.062W
3740	4822 051 30102	1kΩ 5% 0.062W
3741	4822 051 30183	18kΩ 5% 0.062W
3742	4822 051 30183	18kΩ 5% 0.062W
3744	4822 051 30222	2.2kΩ 5% 0.062W
3745	4822 051 30102	1kΩ 5% 0.062W
3746	4822 051 30392	3.9kΩ 5% 0.063W 0603
3747	4822 051 30154	150k 5% 0.062W
3748	4822 117 12891	220kΩ 1% 0.063W 0603
3749	4822 051 30392	3.9kΩ 5% 0.063W 0603
3750	4822 051 30332	3.3kΩ 5% 0.062W
3751	4822 051 30472	4.7kΩ 5% 0.062W
3752	4822 117 12917	1Ω 5% 0.062W 0603
3753	4822 117 12917	1Ω 5% 0.062W 0603
3754	4822 051 30101	100Ω 5% 0.062W
3755	4822 051 30472	4.7kΩ 5% 0.062W
3756	4822 117 12902	8.2kΩ 1% 0.063W 0603
3757	4822 051 30479	47Ω 5% 0.062W
3758	4822 051 30472	4.7kΩ 5% 0.062W
3759	4822 051 30221	220Ω 5% 0.062W
3762	4822 051 30101	100Ω 5% 0.062W
3763	4822 051 30221	220Ω 5% 0.062W
3763	4822 117 12139	22Ω 5% 0.062W
3764	4822 051 30109	10Ω 5% 0.062W
3771	4822 117 12971	15Ω 5% 0.62W 0603
3772	4822 117 12971	15Ω 5% 0.62W 0603
3773	4822 117 12925	47kΩ 1% 0.063W 0603
3774	4822 117 12925	47kΩ 1% 0.063W 0603
3781	4822 117 12925	47kΩ 1% 0.063W 0603
3782	4822 117 12925	47kΩ 1% 0.063W 0603
3783	4822 117 12925	47kΩ 1% 0.063W 0603
3785	4822 117 13577	330Ω 1% 0805 1.25W
3786	4822 117 13577	330Ω 1% 0805 1.25W
3787	4822 117 13577	330Ω 1% 0805 1.25W
3788	5322 117 13034	1k5 1% 0.063W 0603
3789	5322 117 13043	220Ω 1% 0.063W 0603
3790	5322 117 13059	560Ω 1% 0.063W 0603
3791	5322 117 13049	470Ω 1% 0.063W 0603
3792	4822 051 30102	1kΩ 5% 0.062W
3793	4822 051 30222	2.2kΩ 5% 0.062W
3794	4822 117 12971	15Ω 5% 0.62W 0603
3795	4822 051 30339	33Ω 5% 0.062W
3800	5322 117 13058	150Ω 1% 0.063W 0603
3801	4822 051 30102	1kΩ 5% 0.062W
3802	5322 117 13058	150Ω 1% 0.063W 0603
3803	5322 117 13058	150Ω 1% 0.063W 0603
3804	4822 051 30102	1kΩ 5% 0.062W
3805	5322 117 13049	470Ω 1% 0.063W 0603
3806	5322 117 13049	470Ω 1% 0.063W 0603
3807	5322 117 13068	82Ω 1% 0.063W 0603
3808	5322 117 13057	820Ω 1% 0.063W 0603
3809	5322 117 13043	220Ω 1% 0.063W 0603
3810	4822 051 30391	390Ω 5% 0.062W
3811	4822 051 30759	75Ω 5% 0.062W
3812	4822 051 30759	75Ω 5% 0.062W
3813	4822 051 30391	390Ω 5% 0.062W
3814	4822 051 30759	75Ω 5% 0.062W
3815	4822 051 30759	75Ω 5% 0.062W
3816	4822 051 30391	390Ω 5% 0.062W
3817	4822 051 30759	75Ω 5% 0.062W
3818	4822 051 30759	75Ω 5% 0.062W
3819	4822 051 30759	75Ω 5% 0.062W
3820	4822 051 30759	75Ω 5% 0.062W
3821	4822 051 30759	75Ω 5% 0.062W
3822	4822 051 30759	75Ω 5% 0.062W
3823	4822 051 30759	75Ω 5% 0.062W
3824	4822 051 30759	75Ω 5% 0.062W
3825	5322 117 13058	150Ω 1% 0.063W 0603
3826	5322 117 13058	150Ω 1% 0.063W 0603
3827	5322 117 13058	150Ω 1% 0.063W 0603
9015	4822 051 30008	Jumper 0603
9302	4822 051 30008	Jumper 0603
9303	4822 051 30008	Jumper 0603
9304	4822 051 30008	Jumper 0603
9318	4822 051 30008	Jumper 0603
9322	4822 051 30008	Jumper 0603
9406	4822 051 30008	Jumper 0603
9407	4822 051 30008	Jumper 0603
9410	4822 051 30008	Jumper 0603
9413	4822 051 30008	Jumper 0603
9416	4822 051 30008	Jumper 0603
9417	4822 051 30008	Jumper 0603
9418	4822 051 30008	Jumper 0603
9419	4822 051 30008	Jumper 0603
9420	4822 051 30008	Jumper 0603
9520	4822 051 30008	Jumper 0603
9522	4822 051 30008	Jumper 0603
9603	4822 051 30008	Jumper 0603
9604	4822 051 30008	Jumper 0603
9607	4822 051 30008	Jumper 0603
9608	4822 051 30008	Jumper 0603
9609	4822 051 30008	Jumper 0603
9610	4822 051 30008	Jumper 0603
9642	4822 051 30008	Jumper 0603
9645	4822 051 30008	Jumper 0603
9652	4822 051 30008	Jumper 0603
9682	4822 051 30008	Jumper 0603
9683	4822 051 30008	Jumper 0603
9684	4822 051 30008	Jumper 0603
9685	4822 051 30008	Jumper 0603
9686	4822 051 30008	Jumper 0603
9687	4822 051 30008	Jumper 0603
9688	4822 051 30008	Jumper 0603
9689	4822 051 30008	Jumper 0603
9691	4822 051 30008	Jumper 0603
9692	4822 051 30008	Jumper 0603
9694	4822 051 30008	Jumper 0603
9702	4822 051 30008	Jumper 0603
9704	4822 051 30008	Jumper 0603
9713	4822 051 30008	Jumper 0603
9715	4822 051 30008	Jumper 0603
9716	4822 051 30008	Jumper 0603
9717	4822 051 30008	Jumper 0603
9718	4822 051 30008	Jumper 0603
9719	4822 051 30008	Jumper 0603
9722	4822 051 30008	Jumper 0603
9724	4822 051 30008	Jumper 0603
9725	4822 051 30008	Jumper 0603
9731	4822 051 30008	Jumper 0603
9733	4822 051 30008	Jumper 0603
9735	4822 051 30008	Jumper 0603
9736	4822 051 30008	Jumper 0603
9737	4822 051 30008	Jumper 0603
9738	4822 051 30008	Jumper 0603
9739	4822 051 30008	Jumper 0603
9740	4822 051 30008	Jumper 0603
9741	4822 117 12662	4 x 10Ω 5%
9744	4822 051 30008	Jumper 0603
9747	4822 051 30008	Jumper 0603
9754	4822 051 30008	Jumper 0603
9760	4822 051 30008	Jumper 0603
9761	4822 051 30008	Jumper 0603
9762	4822 051 30008	Jumper 0603
9763	4822 051 30008	Jumper 0603
9764	4822 051 30008	Jumper 0603
9765	4822 051 30008	Jumper 0603
9768	4822 051 30008	Jumper 0603
9769	4822 051 30008	Jumper 0603
9901	4822 051 30008	Jumper 0603
9902	4822 051 30008	Jumper 0603
9903	4822 051 30008	Jumper 0603
9904	4822 051 30008	Jumper 0603
9905	4822 051 30008	Jumper 0603
9906	4822 051 30008	Jumper 0603
9907	4822 051 30008	Jumper 0603
9908	4822 051 30008	Jumper 0603
9909	4822 051 30008	Jumper 0603
9919	4822 051 30008	Jumper 0603
9920	4822 051 30008	Jumper 0603
9921	4822 051 30008	Jumper 0603
9925	4822 051 30008	Jumper 0603

9927	4822 051 30008	Jumper 0603
9928	4822 051 30008	Jumper 0603
9929	4822 051 30008	Jumper 0603
9935	4822 051 30008	Jumper 0603
9937	4822 051 30008	Jumper 0603
9938	4822 051 30008	Jumper 0603
9939	4822 051 30008	Jumper 0603
9944	4822 051 30008	Jumper 0603
9945	4822 051 30008	Jumper 0603
9946	4822 051 30008	Jumper 0603
9947	4822 051 30008	Jumper 0603
9948	4822 051 30008	Jumper 0603
9949	4822 051 30008	Jumper 0603
9950	4822 051 30008	Jumper 0603
9951	4822 051 30008	Jumper 0603
9952	4822 051 30008	Jumper 0603
9953	4822 051 30008	Jumper 0603
9954	4822 051 30008	Jumper 0603

5301	4822 157 11876	6.8µH 10% 0805
5302	4822 157 11876	6.8µH 10% 0805
5401	3198 018 56880	6.8µH 10% 0603
5403	2422 549 44461	Coil trim. 40.4MHz 5CCE
5404	2422 535 95427	Bead 120Ω at 100MHz
5405	2422 535 95427	Bead 120Ω at 100MHz
5406	4822 157 10586	2.2µH 10% 0805
5408	2422 549 44983	Coil trim. 78MHz 5CCB SMD
5409	2422 549 42896	Bead 120Ω at 100MHz
5411	4822 157 11892	0.22µH 10% 0805
5415	4822 157 11716	Bead 30Ω at 100MHz
5416	4822 157 11716	Bead 30Ω at 100MHz
5651	2422 549 43769	Bead 30Ω at 100MHz
5652	2422 549 43769	Bead 30Ω at 100MHz
5653	2422 549 43769	Bead 30Ω at 100MHz
5654	4822 157 11716	Bead 30Ω at 100MHz
5655	4822 157 11828	22µH 20% 0805
5656	4822 157 11876	6.8µH 10% 0805
5657	4822 051 30008	Jumper 0603
5658	4822 051 30008	Jumper 0603
5659	4822 051 30008	Jumper 0603
5660	4822 051 30008	Jumper 0603
5661	4822 051 30008	Jumper 0603
5662	4822 051 30008	Jumper 0603
5663	4822 051 30008	Jumper 0603
5666	4822 051 30008	Jumper 0603
5667	4822 051 30008	Jumper 0603
5668	4822 051 30008	Jumper 0603
5671	4822 157 11716	Bead 30Ω at 100MHz
5672	4822 157 11716	Bead 30Ω at 100MHz
5700	4822 157 10586	2.2µH 10% 0805
5701	3198 018 31580	1.5µH 10% 0805
5702	3198 018 31580	1.5µH 10% 0805
5705	4822 156 21729	Bead 1kΩ at 100MHz
5706	4822 157 11716	Bead 30Ω at 100MHz
5710	4822 156 21729	Bead 1kΩ at 100MHz
5711	4822 156 21729	Bead 1kΩ at 100MHz
5712	4822 156 21729	Bead 1kΩ at 100MHz
5713	4822 157 11716	Bead 30Ω at 100MHz
5714	4822 157 71206	Bead 600Ω at 100MHz
5716	4822 156 21729	Bead 1kΩ at 100MHz
5717	4822 156 21729	Bead 1kΩ at 100MHz
5718	4822 157 11716	Bead 30Ω at 100MHz
5719	4822 156 21729	Bead 1kΩ at 100MHz
5721	4822 157 71206	Bead 600Ω at 100MHz
5722	4822 156 21729	Bead 1kΩ at 100MHz
5724	4822 156 21729	Bead 1kΩ at 100MHz
5725	4822 157 71206	Bead 600Ω at 100MHz
5726	4822 156 21729	Bead 1kΩ at 100MHz
5727	4822 156 21729	Bead 1kΩ at 100MHz
5728	4822 157 11716	Bead 30Ω at 100MHz
5729	4822 157 11716	Bead 30Ω at 100MHz
5731	4822 156 21729	Bead 1kΩ at 100MHz
5736	4822 157 11876	6.8µH 10% 0805
5737	4822 156 21729	Bead 1kΩ at 100MHz
5738	4822 157 11716	Bead 30Ω at 100MHz
5739	4822 157 10586	2.2µH 10% 0805
5740	4822 157 10586	2.2µH 10% 0805
5741	4822 157 10586	2.2µH 10% 0805
5742	4822 157 11716	Bead 30Ω at 100MHz
5743	4822 051 20229	22Ω 5% 0.1W
5743	4822 156 21729	Bead 1kΩ at 100MHz
5744	4822 157 11716	Bead 30Ω at 100MHz
5900	4822 157 11716	Bead 30Ω at 100MHz
5901	4822 157 11716	Bead 30Ω at 100MHz
5902	4822 157 11716	Bead 30Ω at 100MHz
5903	4822 157 11716	Bead 30Ω at 100MHz
5904	4822 157 11716	Bead 30Ω at 100MHz
5910	2422 549 43062	Bead 600Ω at 100MHz 0603
5911	2422 549 43062	Bead 600Ω at 100MHz 0603
5912	2422 549 43062	Bead 600Ω at 100MHz 0603
5913	2422 549 43062	Bead 600Ω at 100MHz 0603
5914	2422 549 43062	Bead 600Ω at 100MHz 0603
5915	2422 549 43062	Bead 600Ω at 100MHz 0603
5917	2422 549 43062	Bead 600Ω at 100MHz 0603
5918	2422 549 43062	Bead 600Ω at 100MHz 0603
5919	2422 549 43062	Bead 600Ω at 100MHz 0603
5920	2422 549 43062	Bead 600Ω at 100MHz 0603

6001	4822 130 80622	BAT54
6002	4822 130 11397	BAS316
6003	4822 130 80622	BAT54
6004	4822 130 80622	BAT54
6005	4822 130 11422	PLVA2650A
6303	4822 130 11594	BZX284-C47
6304	4822 130 11397	BAS316
6306	3198 020 55680	BZX384-C5V6
6307	4822 130 11528	1PS76SB10
6309	4822 130 11397	BAS316
6310	4822 130 11416	PDZ6.8B
6311	9340 548 67115	PDZ22B
6312	4822 130 11397	BAS316
6313	9322 149 08685	BZM55-C22
6314	4822 130 11397	BAS316
6317	4822 130 11397	BAS316
6319	4822 130 11397	BAS316
6334	4822 130 11397	BAS316
6403	9340 552 30115	BA591
6652	9322 129 40685	BZM55-C10
6657	4822 130 10838	UDZ3.3B
6657	4822 130 11564	UDZ3.9B
6658	4822 130 11397	BAS316
6659	4822 130 80622	BAT54
6926	4822 130 10837	UDZS8.2B
6926	4822 130 11397	BAS316
6927	4822 130 11397	BAS316
6928	4822 130 11397	BAS316
6929	4822 130 11397	BAS316
6956	4822 130 10837	UDZS8.2B
6956	4822 130 11397	BAS316
6957	4822 130 10837	UDZS8.2B
6957	4822 130 11397	BAS316

7001	9352 684 81557	SAA5801H/015
7002	3198 010 42320	BC857BW
7003	3198 010 42310	BC847BW
7004	3198 010 42310	BC847BW
7005	9322 116 74668	LD1117D33
7006	3104 300 50441	MR27V3202F-NETN-9
7007	9322 157 20668	MSM51V18165F-60J
7008	3198 010 42310	BC847BW
7009	3198 010 42310	BC847BW
7010	3198 010 42320	BC857BW
7011	9322 156 81668	M24C32-WMN6TNKSA
7012	9322 156 72668	M29W400BT-90N1
7013	3198 010 42310	BC847BW
7014	3198 010 42320	BC857BW
7015	4822 209 73852	PMBT2369
7016	4822 209 73852	PMBT2369
7301	9352 681 65518	TDA9330N3
7303	3198 010 42320	BC857BW
7304	9340 310 30215	PDTC144ET
7307	9352 630 99118	TDA9181T
7310	3198 010 42310	BC847BW
7311	3198 010 42320	BC857BW
7312	9340 310 30215	PDTC144ET
7318	3198 010 42320	BC857BW
7320	3198 010 42310	BC847BW
7322	3198 010 42310	BC847BW
7323	9352 625 24518	TDA9321H/N2
7402	3198 010 42310	BC847BW
7403	5322 130 60159	BC846B
7404	3198 010 42310	BC847BW
7407	4822 130 60373	BC856B
7410	3198 010 42310	BC847BW
7411	5322 130 60159	BC846B
7651	9322 180 61702	MSP3411G-FH-B8-V3
7651	9322 183 28702	MSP3412G-FH-B3
7652	9351 869 40118	74HC4053PW
7653	9351 869 40118	74HC4053PW
7654	9340 425 20115	BC847BS
7656	9340 425 30115	BC847BPN
7663	9340 425 30115	BC847BPN
7664	9340 425 30115	BC847BPN
7665	9340 425 30115	BC847BPN
7666	9340 425 30115	BC847BPN
7667	3198 010 42310	BC847BW
7668	3198 010 42320	BC857BW
7674	3198 010 42310	BC847BW
7675	9340 425 20115	BC847BS
7677	3198 010 42310	BC847BW
7678	9340 425 20115	BC847BS
7679	9340 425 20115	BC847BS
7680	3198 010 42310	BC847BW
7681	9322 060 73668	MC33178DR2
7682	5322 130 60159	BC846B
7703	4822 209 73852	PMBT2369
7706	9322 142 88668	LF25CDT
7707	5322 130 60159	BC846B
7708	5322 130 60159	BC846B
7709	5322 130 60159	BC846B
7710	5322 130 60159	BC846B
7711	2422 486 80938	Socket 32p f
7712	9351 870 00118	74HC573PW
7713	9352 688 09557	SAA4978H/V204 Y
7714	9965 000 02179	MS81V04160-25TB
7715	4822 209 73852	PMBT2369
7717	9352 498 00518	SAA4955TJ/V1
7718	9352 695 58557	SAA4993H/V1
7719	9352 498 00518	SAA4955TJ/V1
7722	9965 000 02179	MS81V04160-25TB
7723	9965 000 02179	MS81V04160-25TB
7724	9322 188 08702	T8F24EF-0002 EAGLE
7725	4822 209 73852	PMBT2369
7726	4822 209 17398	LD1117DT33
7727	9322 170 14668	LF15ABDT
7728	5322 130 42718	BFS20
7729	5322 130 42718	BFS20
7730	5322 130 42718	BFS20
7731	5322 130 42718	BFS20
7732	5322 130 42718	BFS20
7733	5322 130 42718	BFS20
7999	3104 317 43881	Software (check Prod.Surv.)

DW Panel [C]

Various

0200	4822 267 10734	Connector 5p m
0201	4822 267 10557	Connector 10p
0205	2422 025 16587	Connector FFC 10p f
0207	4822 267 10565	Connector 4p
0236	4822 267 10735	Connector 3p m
0237	4822 267 10676	Connector 1P
0272	2422 025 16382	Connector 3p m
1002	3139 188 01661	VIF/DEMOD. EUROPE1
1327	4822 242 10694	Resonator 12MHz
1333	2422 549 44311	Filter 5M8/6M5 TPWCC16B
1352	2422 549 44223	Filter SAW OFWK7260M

2261	4822 124 40207	100µF 20% 25V
2265	4822 124 40207	100µF 20% 25V
2269	4822 126 13751	47nF 10% 63V
2270	4822 126 13751	47nF 10% 63V
2271	4822 126 13751	47nF 10% 63V
2272	5322 126 11583	10nF 10% 50V 0603
2301	3198 017 41050	1µF 10V 0603
2302	5322 126 10184	820pF 5% 50V 3
2303	5322 126 10223	4.7nF 10% 63V
2306	5322 126 11583	10nF 10% 50V 0603
2309	4822 126 14585	100nF 10% 50V
2312	4822 122 33177	10nF 20% 50V
2313	4822 126 14585	100nF 10% 50V
2314	4822 126 14585	100nF 10% 50V
2316	2238 916 15641	22nF 10% 25V 0603
2317	4822 126 13879	220nF 20% 16V
2319	2238 586 59812	100nF 20-80% 50V 0603
2321	5322 126 10465	3.9nF 10% 50V
2322	4822 124 40248	10µF 20% 63V
2324	4822 126 14585	100nF 10% 50V
2327	2222 867 15339	33pF 5% 50V 0603
2328	2222 867 15339	33pF 5% 50V 0603
2331	4822 124 22652	2.2µF 20% 50V
2332	4822 126 14076	220nF 25V. 20%
2333	2238 586 59812	100nF 20-80% 50V 0603
2334	5322 122 32654	22nF 10% 63V
2335	4822 126 14043	1µF 20% 16V
2336	5322 126 10184	820pF 5% 50V 3
2338	4822 122 33127	2.2nF 10% 63V
2342	4822 126 13692	47pF 1% 63V
2345	4822 126 13692	47pF 1% 63V
2348	4822 126 11785	47pF 5% 50V 0603
2349	4822 122 33177	10nF 20% 50V
2350	4822 124 40248	10µF 20% 63V
2351	4822 122 33177	10nF 20% 50V
2354	4822 126 13482	470nF 80/20% 16V
2355	3198 017 41050	1µF 10V 0603
2356	4822 126 13482	470nF 80/20% 16V
2357	2238 861 18109	10pF 1% 50V

2372	5322 126 10223	4.7nF 10% 63V
2373	4822 124 21913	1µF 20% 63V
2374	5322 122 32654	22nF 10% 63V
2375	5322 126 10511	1nF 5% 50V
2376	5322 126 10511	1nF 5% 50V
2377	5322 126 10511	1nF 5% 50V
2380	4822 124 40248	10µF 20% 63V
2385	4822 126 13881	470pF 5% 50V
2386	4822 126 13881	470pF 5% 50V
2390	4822 126 11785	47pF 5% 50V 0603
2391	2020 552 94427	100pF 5% 50v 0603
2392	4822 126 14225	56pF 5% 50V 0603
2393	2020 552 94427	100pF 5% 50v 0603
2401	3198 017 41050	1µF 10V 0603
2402	3198 017 41050	1µF 10V 0603
2403	3198 017 41050	1µF 10V 0603
2404	3198 017 41050	1µF 10V 0603
2405	3198 017 41050	1µF 10V 0603
2411	4822 124 40248	10µF 20% 63V
2412	4822 126 13879	220nF 20% 16V
2415	4822 126 13879	220nF 20% 16V
2431	2238 586 59812	100nF 20-80% 50V 0603
2432	2238 586 59812	100nF 20-80% 50V 0603
2434	2238 586 59812	100nF 20-80% 50V 0603
2436	4822 124 40207	100µF 20% 25V
2438	3198 017 34730	47nF 16V 0603
2439	3198 017 34730	47nF 16V 0603
2440	3198 017 34730	47nF 16V 0603
2811	2238 586 59812	100nF 20-80% 50V 0603
2811	3198 023 41040	100nF 10% 100V 0603
2812	2238 586 59812	100nF 20-80% 50V 0603
2812	3198 023 41040	100nF 10% 100V 0603
2813	3198 016 31510	150pF 10% 50V 0603
2813	4822 122 33753	150pF 5% 50V
2814	3198 023 21040	100nF 10% 25V 0805
2814	4822 126 14585	100nF 10% 50V
2816	3198 025 51090	10µF 20% 50V
2816	4822 124 40248	10µF 20% 63V
2817	3198 023 21040	100nF 10% 25V 0805
2817	4822 126 14585	100nF 10% 50V
2818	3198 023 21040	100nF 10% 25V 0805
2818	4822 126 14585	100nF 10% 50V
2819	3198 023 21040	100nF 10% 25V 0805
2819	4822 126 14585	100nF 10% 50V
2821	3198 025 51090	10µF 20% 50V
2821	4822 124 40248	10µF 20% 63V
2822	3198 023 21040	100nF 10% 25V 0805
2822	4822 126 14585	100nF 10% 50V
2823	2238 586 59812	100nF 20-80% 50V 0603
2823	3198 023 41040	100nF 10% 100V 0603
2824	2238 586 59812	100nF 20-80% 50V 0603
2824	3198 023 41040	100nF 10% 100V 0603
2825	3198 016 01510	150pF 10% 50V 0805
2825	5322 122 33538	150pF 2% 63V
2826	3198 023 21040	100nF 10% 25V 0805
2826	4822 126 14585	100nF 10% 50V
2827	3198 025 31010	100µF 20% 25V
2827	4822 124 40207	100µF 20% 25V
2828	2238 586 59812	100nF 20-80% 50V 0603
2828	3198 023 41040	100nF 10% 100V 0603
2829	3198 023 21040	100nF 10% 25V 0805
2829	4822 126 14585	100nF 10% 50V
2831	3198 017 21050	1uF 5% 16V 0805
2831	4822 126 14043	1µF 20% 16V
2832	3198 017 21050	1uF 5% 16V 0805
2832	4822 126 14043	1µF 20% 16V
2833	2238 586 59812	100nF 20-80% 50V 0603
2833	3198 023 41040	100nF 10% 100V 0603
2834	3198 025 51090	10µF 20% 50V
2834	4822 124 40248	10µF 20% 63V
2836	2238 586 59812	100nF 20-80% 50V 0603
2836	3198 023 41040	100nF 10% 100V 0603
2837	3198 023 21040	100nF 10% 25V 0805
2837	4822 126 14585	100nF 10% 50V
2838	3198 025 02210	220µF 20% 6.3V
2838	4822 124 11912	220µF 20% 6.3V
2839	3198 023 21040	100nF 10% 25V 0805
2839	4822 126 14585	100nF 10% 50V
2841	3198 025 51090	10µF 20% 50V
2841	4822 124 40248	10µF 20% 63V
2842	3198 016 31510	150pF 10% 50V 0603
2842	4822 122 33753	150pF 5% 50V
2843	2238 586 59812	100nF 20-80% 50V 0603
2843	3198 023 41040	100nF 10% 100V 0603
2844	2238 586 59812	100nF 20-80% 50V 0603
2844	3198 023 41040	100nF 10% 100V 0603
2846	3198 023 21040	100nF 10% 25V 0805
2846	4822 126 14585	100nF 10% 50V
2847	3198 016 01510	150pF 10% 50V 0805
2847	5322 122 33538	150pF 2% 63V
2848	3198 023 21040	100nF 10% 25V 0805
2848	4822 126 14585	100nF 10% 50V
2849	3198 023 21040	100nF 10% 25V 0805
2849	4822 126 14585	100nF 10% 50V

2851	3198 025 51090	10µF 20% 50V
2851	4822 124 40248	10µF 20% 63V
2852	3198 017 01040	100nF 10% 16V 0805
2852	4822 126 14585	100nF 10% 50V
2853	3198 025 51090	10µF 20% 50V
2853	4822 124 40248	10µF 20% 63V
2854	3198 023 21040	100nF 10% 25V 0805
2854	4822 126 14585	100nF 10% 50V
2856	3198 016 01510	150pF 10% 50V 0805
2856	5322 122 33538	150pF 2% 63V
2857	3198 016 31510	150pF 10% 50V 0603
2857	4822 122 33753	150pF 5% 50V
2861	3198 025 51090	10µF 20% 50V
2861	4822 124 40248	10µF 20% 63V
2862	2238 586 59812	100nF 20-80% 50V 0603
2862	3198 023 41040	100nF 10% 100V 0603
2863	3198 025 52290	22µF 20% 50V
2863	4822 124 81151	22µF 50V
2864	3198 017 34730	47nF 16V 0603
2866	3198 017 34730	47nF 16V 0603
2867	3198 017 41050	1µF 10V 0603
2868	2238 586 59812	100nF 20-80% 50V 0603
2868	3198 023 41040	100nF 10% 100V 0603
2869	3198 025 31010	100µF 20% 25V
2869	4822 124 40207	100µF 20% 25V
2871	3198 017 41050	1µF 10V 0603
2872	3198 017 34730	47nF 16V 0603
2873	3198 017 34730	47nF 16V 0603
2874	3198 021 90030	Jumper 0603
2874	4822 051 30008	Jumper 0603
2876	3198 021 90030	Jumper 0603
2876	4822 051 30008	Jumper 0603
2877	3198 021 90030	Jumper 0603
2877	4822 051 30008	Jumper 0603
2878	3198 023 21040	100nF 10% 25V 0805
2878	4822 126 14585	100nF 10% 50V
2879	2238 586 59812	100nF 20-80% 50V 0603
2879	3198 023 41040	100nF 10% 100V 0603
2891	3198 017 01020	1nF 10% 50V 0805
2891	5322 122 31647	1nF 10% 63V
2892	3198 016 34790	47pF 10% 50V 0603
2892	4822 126 11785	47pF 5% 50V 0603
2893	3198 016 34790	47pF 10% 50V 0603
2893	4822 126 11785	47pF 5% 50V 0603
2894	3198 016 34790	47pF 10% 50V 0603
2894	4822 126 11785	47pF 5% 50V 0603
2895	3198 016 04790	47pf 10% 50V 0805
2895	4822 126 13692	47pF 1% 63V
2896	3198 016 04790	47pf 10% 50V 0805
2896	4822 126 13692	47pF 1% 63V
2897	3198 016 34790	47pF 10% 50V 0603
2897	4822 126 11785	47pF 5% 50V 0603
2898	3198 025 31010	100µF 20% 25V
2898	4822 124 40207	100µF 20% 25V
2899	3198 025 31010	100µF 20% 25V
2899	4822 124 40207	100µF 20% 25V

3263	4822 117 11449	2.2kΩ 5% 0.1W 0805
3264	4822 117 10833	10kΩ 1% 0.1W
3267	4822 051 20109	10Ω 5% 0.1W
3268	4822 051 20109	10Ω 5% 0.1W
3270	4822 051 20008	Jumper 0805
3301	4822 051 30102	1kΩ 5% 0.062W
3305	4822 117 12955	2.7kΩ 1% 0.1W 0805
3311	4822 051 20273	27kΩ 5% 0.1W
3312	4822 117 10833	10kΩ 1% 0.1W
3315	4822 117 12708	39kΩ 1% 0.1W 0805 RC12G
3316	4822 051 30681	680Ω 5% 0.062W
3318	4822 051 30101	100Ω 5% 0.062W
3321	4822 051 30103	10kΩ 5% 0.062W
3322	4822 117 12902	8.2kΩ 1% 0.063W 0603
3324	4822 051 20391	390Ω 5% 0.1W
3326	5322 117 12487	1k 1% 0.125W
3327	4822 051 30561	560Ω 5% 0.062W
3329	4822 117 11373	100Ω 1% 0805
3330	4822 117 11373	100Ω 1% 0805
3333	4822 051 30681	680Ω 5% 0.062W
3334	4822 051 30471	470Ω 5% 0.062W
3335	4822 051 20121	120Ω 5% 0,1W
3338	4822 051 20008	Jumper 0805
3339	4822 117 10833	10kΩ 1% 0.1W
3340	4822 051 30222	2.2kΩ 5% 0.062W
3341	4822 051 20479	47Ω 5% 0.1W
3344	4822 051 20479	47Ω 5% 0.1W
3346	4822 051 30561	560Ω 5% 0.062W
3348	4822 051 30008	Jumper 0603
3352	4822 051 30222	2.2kΩ 5% 0.062W
3353	4822 051 30682	6.8kΩ 5% 0.062W
3354	4822 051 30222	2.2kΩ 5% 0.062W
3355	4822 051 30273	27kΩ 5% 0.062W
3356	4822 051 30183	18kΩ 5% 0.062W

3370	4822 117 11373	100Ω 1% 0805
3371	4822 116 83933	15k 1% 0.1W
3372	4822 051 30008	Jumper 0603
3374	4822 051 30472	4.7kΩ 5% 0.062W
3381	4822 117 11373	100Ω 1% 0805
3382	4822 117 11373	100Ω 1% 0805
3383	4822 117 11373	100Ω 1% 0805
3384	4822 051 30103	10kΩ 5% 0.062W
3385	4822 051 30472	4.7kΩ 5% 0.062W
3386	4822 051 30103	10kΩ 5% 0.062W
3387	4822 051 30393	39kΩ 5% 0.062W
3388	4822 051 30103	10kΩ 5% 0.062W
3389	4822 051 30472	4.7kΩ 5% 0.062W
3390	4822 051 30471	470Ω 5% 0.062W
3401	4822 051 30101	100Ω 5% 0.062W
3402	4822 051 30101	100Ω 5% 0.062W
3403	4822 117 11373	100Ω 1% 0805
3404	4822 051 30101	100Ω 5% 0.062W
3405	4822 117 11373	100Ω 1% 0805
3411	4822 117 12925	47kΩ 1% 0.063W 0603
3412	4822 117 12925	47kΩ 1% 0.063W 0603
3413	4822 051 30102	1kΩ 5% 0.062W
3414	4822 117 12925	47kΩ 1% 0.063W 0603
3415	4822 117 12925	47kΩ 1% 0.063W 0603
3416	4822 051 30102	1kΩ 5% 0.062W
3417	4822 117 11373	100Ω 1% 0805
3418	4822 117 11373	100Ω 1% 0805
3423	4822 051 20561	560Ω 5% 0.1W
3424	4822 117 11448	180Ω 1% 0.1W
3431	4822 051 30101	100Ω 5% 0.062W
3432	4822 051 30101	100Ω 5% 0.062W
3437	4822 051 20472	4.7kΩ 5% 0.1W
3438	4822 051 30471	470Ω 5% 0.062W
3439	4822 051 20008	Jumper 0805
3453	4822 051 30472	4.7kΩ 5% 0.062W
3456	4822 051 30472	4.7kΩ 5% 0.062W
3457	4822 051 30472	4.7kΩ 5% 0.062W
3460	4822 051 30472	4.7kΩ 5% 0.062W
3461	4822 051 30472	4.7kΩ 5% 0.062W
3462	4822 052 10228	2Ω2 5% 0.33W
3801	3198 021 52210	220Ω 5% 0805
3801	4822 117 11503	220Ω 1% 0.1W
3802	3198 021 56810	680K 5% 0805
3802	4822 117 10361	680Ω 1% 0.1W
3803	3198 021 52210	220Ω 5% 0805
3803	4822 117 11503	220Ω 1% 0.1W
3804	3198 021 36810	680Ω 5% 0.062W
3804	4822 051 30681	680Ω 5% 0.062W
3805	3198 021 32210	220Ω 5% 0603
3805	4822 051 30221	220Ω 5% 0.062W
3806	3198 021 36810	680Ω 5% 0.062W
3806	4822 051 30681	680Ω 5% 0.062W
3807	3198 021 32210	220Ω 5% 0603
3807	4822 051 30221	220Ω 5% 0.062W
3808	3198 021 56810	680K 5% 0805
3808	4822 117 10361	680Ω 1% 0.1W
3809	3198 021 32210	220Ω 5% 0603
3809	4822 051 30221	220Ω 5% 0.062W
3810	3198 021 36810	680Ω 5% 0.062W
3810	4822 051 30681	680Ω 5% 0.062W
3811	3198 021 52210	220Ω 5% 0805
3811	4822 117 11503	220Ω 1% 0.1W
3812	3198 021 34790	47Ω 5% 0603
3812	4822 051 30479	47Ω 5% 0.062W
3813	3198 021 31510	150Ω 5% 0603
3813	4822 051 30151	150Ω 5% 0.062W
3814	3198 021 32230	22K 5% 0603
3814	4822 051 30223	22kΩ 5% 0.062W
3816	3198 021 34790	47Ω 5% 0603
3816	4822 051 30479	47Ω 5% 0.062W
3817	3198 021 31510	150Ω 5% 0603
3817	4822 051 30151	150Ω 5% 0.062W
3818	3198 021 34790	47Ω 5% 0603
3818	4822 051 30479	47Ω 5% 0.062W
3821	3198 021 31510	150Ω 5% 0603
3821	4822 051 30151	150Ω 5% 0.062W
3822	3198 021 34720	4.7kΩ 5% 0603
3822	4822 051 30472	4.7kΩ 5% 0.062W
3823	3198 021 56810	680K 5% 0805
3823	4822 117 10361	680Ω 1% 0.1W
3824	3198 021 90030	Jumper 0603
3824	4822 051 30008	Jumper 0603
3825	3198 021 32210	220Ω 5% 0603
3825	4822 051 30221	220Ω 5% 0.062W
3826	3198 021 33320	3.3kΩ 5% 0603
3826	4822 051 30332	3.3kΩ 5% 0.062W
3827	3198 021 31820	1.8kΩ 5% 0603
3827	4822 117 12903	1.8kΩ 1% 0.063W 0603
3828	3198 021 32210	220Ω 5% 0603
3828	4822 051 30221	220Ω 5% 0.062W
3829	3198 021 32210	220Ω 5% 0603
3829	4822 051 30221	220Ω 5% 0.062W
3831	3198 021 32210	220Ω 5% 0603
3831	4822 051 30221	220Ω 5% 0.062W

3832	3198 021 33930	39KΩ 5% 0605
3832	4822 051 30393	39kΩ 5% 0.062W
3833	3198 021 33320	3.3kΩ 5% 0603
3833	4822 051 30332	3.3kΩ 5% 0.062W
3834	3198 021 31820	1.8kΩ 5% 0603
3834	4822 117 12903	1.8kΩ 1% 0.063W 0603
3836	3198 021 33320	3.3kΩ 5% 0603
3836	4822 051 30332	3.3kΩ 5% 0.062W
3837	3198 021 31820	1.8kΩ 5% 0603
3837	4822 117 12903	1.8kΩ 1% 0.063W 0603
3838	3198 021 33930	39KΩ 5% 0605
3838	4822 051 30393	39kΩ 5% 0.062W
3839	3198 021 52210	220Ω 5% 0805
3839	4822 117 11503	220Ω 1% 0.1W
3846	3198 021 52210	220Ω 5% 0805
3846	4822 117 11503	220Ω 1% 0.1W
3854	3198 021 31010	100Ω 5% 0603
3854	4822 051 30101	100Ω 5% 0.062W
3856	3198 021 55620	5.6KΩ 5% 0805
3856	4822 051 20562	5.6kΩ 5% 0.1W 0805
3857	3198 021 51030	10K 5% 0805
3857	4822 117 10833	10kΩ 1% 0.1W
3858	3198 021 55620	5.6KΩ 5% 0805
3858	4822 051 20562	5.6kΩ 5% 0.1W 0805
3862	2306 204 03108	1R Fuse NFR25
3862	4822 052 10108	1Ω 5% 0.33W
3863	2306 204 03108	1R Fuse NFR25
3863	4822 052 10108	1Ω 5% 0.33W
3865	3198 021 33320	3.3kΩ 5% 0603
3865	4822 051 30332	3.3kΩ 5% 0.062W
3866	3198 021 31020	1kΩ 5% 0603
3866	4822 051 30102	1kΩ 5% 0.062W
3868	3198 021 31820	1.8kΩ 5% 0603
3868	4822 117 12903	1.8kΩ 1% 0.063W 0603
3869	3198 021 33320	3.3kΩ 5% 0603
3869	4822 051 30332	3.3kΩ 5% 0.062W
3871	3198 021 32220	2.2k 5% 0603
3871	4822 051 30222	2.2kΩ 5% 0.062W
3872	3198 021 34710	470Ω 5% 0603
3872	4822 051 30471	470Ω 5% 0.062W
3873	3198 021 31520	1.5KΩ 5% 0603
3873	4822 051 30152	1.5kΩ 5% 0.062W
3874	3198 021 31520	1.5KΩ 5% 0603
3874	4822 051 30152	1.5kΩ 5% 0.062W
3876	3198 021 54720	4.7K 5% 0805
3876	4822 051 20472	4.7kΩ 5% 0.1W
3878	3198 021 31020	1kΩ 5% 0603
3878	4822 051 30102	1kΩ 5% 0.062W
3879	3198 021 32210	220Ω 5% 0603
3879	4822 051 30221	220Ω 5% 0.062W
3881	3198 021 90030	Jumper 0603
3881	4822 051 30008	Jumper 0603
3884	3198 021 56810	680K 5% 0805
3884	4822 117 10361	680Ω 1% 0.1W
3886	3198 021 90030	Jumper 0603
3886	4822 051 30008	Jumper 0603
3887	3198 021 90030	Jumper 0603
3887	4822 051 30008	Jumper 0603
3888	3198 021 90030	Jumper 0603
3888	4822 051 30008	Jumper 0603
3889	3198 021 33390	33Ω 5% 0603
3889	4822 051 30339	33Ω 5% 0.062W
3890	3198 021 33390	33Ω 5% 0603
3890	4822 051 30339	33Ω 5% 0.062W
3891	3198 021 33390	33Ω 5% 0603
3891	4822 051 30339	33Ω 5% 0.062W
3892	3198 021 54720	4.7K 5% 0805
3892	4822 051 20472	4.7kΩ 5% 0.1W
3893	3198 021 31520	1.5KΩ 5% 0603
3893	4822 051 30152	1.5kΩ 5% 0.062W
3894	3198 021 32220	2.2k 5% 0603
3894	4822 051 30222	2.2kΩ 5% 0.062W
3895	3198 021 34710	470Ω 5% 0603
3895	4822 051 30471	470Ω 5% 0.062W
3896	3198 021 31520	1.5KΩ 5% 0603
3896	4822 051 30152	1.5kΩ 5% 0.062W
3897	3198 021 32210	220Ω 5% 0603
3897	4822 051 30221	220Ω 5% 0.062W
3898	3198 021 31020	1kΩ 5% 0603
3898	4822 051 30102	1kΩ 5% 0.062W
4304	4822 051 30008	Jumper 0603
4309	4822 051 30008	Jumper 0603
4310	4822 051 30008	Jumper 0603
4311	4822 051 30008	Jumper 0603
4312	4822 051 30008	Jumper 0603
4313	4822 051 20008	Jumper 0805
4314	4822 051 20008	Jumper 0805
4434	4822 051 20008	Jumper 0805
4437	4822 051 20008	Jumper 0805
4438	4822 051 20008	Jumper 0805
4827	3198 021 90030	Jumper 0603
4827	4822 051 30008	Jumper 0603
4828	3198 021 90030	Jumper 0603
4828	4822 051 30008	Jumper 0603
4831	3198 021 32210	220Ω 5% 0603
4831	4822 051 30221	220Ω 5% 0.062W

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5261	4822 157 11299	10µH 5%
5309	4822 157 71334	0.68µH
5332	4822 157 71334	0.68µH
5333	4822 157 71334	0.68µH
5334	4822 157 71334	0.68µH
5349	4822 157 71694	0.82µH 10%
5350	3198 018 61590	15µH 5% 1008
5351	3198 018 61590	15µH 5% 1008
5352	4822 157 71334	0.68µH
5401	2422 535 94637	4.7µH 20% LHL08
5816	3198 018 90070	Bead 120Ω 100MHz
5816	4822 157 11506	Bead 120Ω at 100MHz
5818	3198 018 90070	Bead 120Ω 100MHz
5818	4822 157 11506	Bead 120Ω at 100MHz
5827	3198 018 90070	Bead 120Ω 100MHz
5827	4822 157 11506	Bead 120Ω at 100MHz
5834	3198 018 90070	Bead 120Ω 100MHz
5834	4822 157 11506	Bead 120Ω at 100MHz
5839	3198 018 90070	Bead 120Ω 100MHz
5839	4822 157 11506	Bead 120Ω at 100MHz
5848	3198 018 90070	Bead 120Ω 100MHz
5848	4822 157 11506	Bead 120Ω at 100MHz
5849	3198 018 90070	Bead 120Ω 100MHz
5849	4822 157 11506	Bead 120Ω at 100MHz
5851	3198 018 90070	Bead 120Ω 100MHz
5851	4822 157 11506	Bead 120Ω at 100MHz
5853	3198 018 90070	Bead 120Ω 100MHz
5853	4822 157 11506	Bead 120Ω at 100MHz

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6301	4822 130 11525	1SS356
6412	4822 130 11397	BAS316
6415	4822 130 11397	BAS316
6801	3198 020 53980	BZX384-C2V9
6801	4822 130 11564	UDZ3.9B
6802	3198 020 53980	BZX384-C2V9
6802	4822 130 11564	UDZ3.9B
6803	3198 010 10630	BAS316
6803	4822 130 11397	BAS316

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7201	2422 542 90104	TUNERTEDE9X217AALPS
7301	9352 638 73557	TDA8889H/N1
7305	3198 010 42310	BC847BW
7307	3198 010 42310	BC847BW
7331	3198 010 42320	BC857BW
7332	3198 010 42310	BC847BW
7385	3198 010 42310	BC847BW
7386	3198 010 42310	BC847BW
7401	5322 209 14481	HEF4053BT
7402	5322 209 14481	HEF4053BT
7403	4822 209 17345	M62320FP
7411	3198 010 42310	BC847BW
7412	3198 010 42310	BC847BW
7421	3198 010 42320	BC857BW
7438	3198 010 42310	BC847BW
7801	9352 639 83557	SAB9083H/N4
7802	9322 123 54687	LD1117V33
7803	4822 209 12776	TDA8601T/C1
7803	9351 538 90518	TDA8601T/C1
7804	9352 457 50115	74HC1G32GW
7805	3198 010 42310	BC847BW
7806	3198 010 42310	BC847BW
7807	3198 010 42310	BC847BW
7808	3198 010 42310	BC847BW
7809	3198 010 42310	BC847BW
7810	3198 010 42310	BC847BW
7824	3198 010 42310	BC847BW
7828	3198 010 42310	BC847BW
7832	3198 010 42310	BC847BW
7871	3198 010 42310	BC847BW
7874	3198 010 42310	BC847BW
7876	3198 010 42320	BC857BW
7891	3198 010 42310	BC847BW
7892	3198 010 42310	BC847BW
7893	3198 010 42310	BC847BW
7894	3198 010 42320	BC857BW
7895	3198 010 42310	BC847BW

Mainsswitch Panel [E]

Various

0040	3104 307 97621	Mainsknob FL11
0040	3139 177 55091	Knob Frost Silver
0046	3104 304 23471	Bracket mains unit FL11
0046	3139 124 32521	Front Interface
0151	4822 256 91766	LED holder
0160	4822 256 91766	LED holder
0170	4822 256 10562	Photo diode holder
0201	2422 025 16268	Connector 2p m
0202	2422 025 16268	Connector 2p m
0241	2422 025 06354	Connector 9p m
0248	4822 267 10567	Connector 4P
1031	2422 128 02972	Mains switch
1040	9322 155 82667	IR receiver TSOP2236
1050	9322 155 82667	IR receiver TSOP2236
1051	2422 128 02972	Mains switch
1060	3104 328 18291	MS assy PV2 mains
1060	3104 328 27321	MS Panel
8202	3104 311 02571	Cable 2p3/680/2p3
8202	4822 320 12513	Wiring VH 2P480VH
8946	3104 311 02911	Cable 9P/680/9P
8946	3104 311 04981	Cable 9p/820/9p

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2040	4822 124 41584	100µF 20% 10V
2051	4822 124 41584	100µF 20% 10V
2060	4822 124 81151	22µF 50V
2070	3198 017 44740	470nF 10V 0603
2070	4822 126 13879	220nF 20% 16V
2071	4822 124 40248	10µF 20% 63V
2080	2238 586 59812	100nF 20-80% 50V 0603

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3030	4822 053 21335	3M3 5% 0.5W
3037	4822 053 21335	3M3 5% 0.5W
3040	4822 051 30331	330Ω 5% 0.062W
3040	4822 117 13577	330Ω 1% 0805 1.25W
3041	4822 051 30103	10kΩ 5% 0.062W
3042	4822 051 30682	6.8kΩ 5% 0.062W
3043	4822 051 30101	100Ω 5% 0.062W
3043	4822 051 30471	470Ω 5% 0.062W
3050	4822 117 13577	330Ω 1% 0805 1.25W
3051	4822 051 30471	470Ω 5% 0.062W
3052	4822 051 30331	330Ω 5% 0.062W
3053	4822 051 30561	560Ω 5% 0.062W
3054	4822 051 20471	470Ω 5% 0.1W
3057	4822 053 21335	3M3 5% 0.5W
3060	4822 051 30103	10kΩ 5% 0.062W
3061	4822 117 13577	330Ω 1% 0805 1.25W
3062	4822 117 11373	100Ω 1% 0805
3063	4822 051 30103	10kΩ 5% 0.062W
3064	4822 117 11373	100Ω 1% 0805
3066	4822 053 21335	3M3 5% 0.5W
3070	4822 051 30155	1M50 5% 0,062W
3070	4822 051 30334	330kΩ 5% 0.062W
3070	4822 051 30475	4.7MΩ 5% 0,062W 0603
3071	4822 051 30155	1M50 5% 0,062W
3071	4822 051 30334	330kΩ 5% 0.062W
3071	4822 051 30475	4.7MΩ 5% 0,062W 0603
3072	4822 051 30102	1kΩ 5% 0.062W
3073	4822 051 30103	10kΩ 5% 0.062W
3073	4822 051 30332	3.3kΩ 5% 0.062W
3074	4822 051 30103	10kΩ 5% 0.062W
3074	4822 051 30472	4.7kΩ 5% 0.062W
3075	4822 051 30472	4.7kΩ 5% 0.062W
3076	4822 051 30682	6.8kΩ 5% 0.062W
3077	4822 051 30103	10kΩ 5% 0.062W
3078	4822 051 30102	1kΩ 5% 0.062W
3078	4822 051 30332	3.3kΩ 5% 0.062W
3079	4822 051 30332	3.3kΩ 5% 0.062W
3080	4822 051 30103	10kΩ 5% 0.062W
3081	4822 051 30222	2.2kΩ 5% 0.062W
3082	4822 051 30008	Jumper 0603
3998	4822 050 11002	1k 1% 0.4W
3998	4822 116 52213	180Ω 5% 0.5W
3999	4822 051 30222	2.2kΩ 5% 0.062W
4000	4822 051 30008	Jumper 0603
4002	4822 051 30008	Jumper 0603
4007	4822 051 30008	Jumper 0603
4008	4822 051 30008	Jumper 0603
4009	4822 051 30008	Jumper 0603
4010	4822 051 30008	Jumper 0603
4011	4822 051 30008	Jumper 0603
9000	4822 051 30008	Jumper 0603
9001	4822 051 20008	Jumper 0805
9004	4822 051 20008	Jumper 0805

9005	4822 051 20008	Jumper 0805
9005	4822 051 30008	Jumper 0603
9006	4822 051 20008	Jumper 0805
9006	4822 051 30008	Jumper 0603
9007	4822 051 20008	Jumper 0805
9007	4822 051 30008	Jumper 0603
9008	4822 051 20008	Jumper 0805
9041	4822 051 30008	Jumper 0603
9042	4822 051 30008	Jumper 0603
9050	4822 051 30008	Jumper 0603
9051	4822 051 30008	Jumper 0603
9052	4822 051 30008	Jumper 0603
9053	4822 051 30008	Jumper 0603
9055	4822 051 30008	Jumper 0603

6050	5322 130 83903	TLRC114
6051	4822 209 72895	TLUV5320
6060	9322 191 72682	VS LTL353UBJ
6061	4822 130 30621	1N4148
6070	4822 130 11595	BPW46

7060	5322 130 60159	BC846B
7061	5322 130 60159	BC846B
7070	4822 209 70672	LM358N SEL.
7070	5322 209 82941	LM358D
7080	4822 130 40981	BC337-25
7081	5322 130 60159	BC846B

CRT Panel [F]

Various

0032	4822 492 70788	IC clamp
0034	4822 492 70788	IC clamp
0036	4822 492 70788	IC clamp
1298	2422 500 80063	Connector CRT 10p f
1298	2422 500 80078	Socket CRT 11P f v
1424	2422 025 11244	Connector 7p m
1434	4822 267 10973	Connector 1P m
1483	2422 025 16382	Connector 3p m
1483	4822 267 10735	Connector 3p m
1940	2422 025 12485	Connector 11p m
8483	3104 311 03111	Cable 3P/340/3P ferrite

2300	2020 012 93596	22µF 20% 250V
2301	4822 124 40196	220µF 20% 16V
2302	4822 126 13956	68pF 5% 63V 0603
2304	4822 121 41856	22nF 5% 250V
2306	2238 586 59812	100nF 20-80% 50V 0603
2307	4822 121 41856	22nF 5% 250V
2309	3198 017 42230	22nF 50V
2312	4822 126 14585	100nF 10% 50V
2313	4822 124 11565	10?F 20% 250V
2313	4822 124 12373	47µF 20% 250V
2315	4822 126 13883	220pF 5% 50V
2316	4822 121 40518	100nF 10% 250V
2318	2238 916 15641	22nF 10% 25V 0603
2318	5322 122 32654	22nF 10% 63V
2319	4822 121 43693	10NF 100V
2319	4822 122 30043	10nF 80% 63V
2320	2238 586 59812	100nF 20-80% 50V 0603
2320	2252 648 08032	10nf 20% 500V
2324	4822 121 70581	1.5nF 5% 2kV
2324	4822 121 70594	1nF 5% 2kV
2324	5322 121 44356	4.7nF 5% 2kV
2325	2238 586 59812	100nF 20-80% 50V 0603
2330	4822 157 11499	BLM11P600SPT
2332	4822 126 14507	18pF 5% 50V 0603
2333	4822 126 14507	18pF 5% 50V 0603
2334	4822 126 14507	18pF 5% 50V 0603
2338	4822 121 40518	100nF 10% 250V
2339	4822 121 40518	100nF 10% 250V
2340	4822 121 40518	100nF 10% 250V
2341	2238 586 59812	100nF 20-80% 50V 0603
2342	4822 126 14241	330pF 50V 0603
2347	4822 124 80791	470µF 20% 16V
2348	5322 126 11583	10nF 10% 50V 0603
2358	4822 124 80791	470µF 20% 16V
2359	5322 126 11583	10nF 10% 50V 0603
2403	4822 124 41584	100µF 20% 10V
2404	4822 124 41584	100µF 20% 10V
2405	4822 122 31177	470pF 10% 500V
2408	4822 126 13883	220pF 5% 50V
2409	3198 017 44740	470nF 10V 0603
2410	2238 916 15641	22nF 10% 25V 0603
2410	3198 017 44740	470nF 10V 0603
2411	2238 916 15641	22nF 10% 25V 0603
2411	4822 126 14585	100nF 10% 50V
2412	2222 867 15339	33pF 5% 50V 0603
2420	2222 930 56627	2.2nF 10% 200V 0805
2420	3198 017 44740	470nF 10V 0603
2421	2322 702 60688	6R8 5% 0.062W RC21 0603
2422	4822 121 41856	22nF 5% 250V
2423	4822 121 41856	22nF 5% 250V
2424	2322 702 60688	6R8 5% 0.062W RC21 0603
2425	4822 126 13883	220pF 5% 50V
2428	3198 017 42230	22nF 50V
2435	2020 557 90734	22nF 10% 250V
2436	2020 012 93596	22µF 20% 250V
2437	5322 126 11578	1nF 10% 50V 0603
2438	2222 930 56627	2.2nF 10% 200V 0805
2439	2020 557 90734	22nF 10% 250V
2501	2238 586 59812	100nF 20-80% 50V 0603
2503	2238 586 59812	100nF 20-80% 50V 0603
2505	2238 586 59812	100nF 20-80% 50V 0603
2510	4822 126 14585	100nF 10% 50V
2511	4822 126 14585	100nF 10% 50V

3300	4822 052 10109	10Ω 5% 0.33W
3301	4822 053 12272	2.7kΩ 5% 3W
3301	4822 117 12517	5.6kΩ 5% 5W
3302	4822 051 30102	1kΩ 5% 0.062W
3303	4822 051 30153	15kΩ 5% 0.062W
3304	4822 052 10102	1k 5% 0.33W
3304	4822 117 11454	820Ω 1% 0,1W
3305	4822 052 10108	1Ω 5% 0.33W
3306	4822 117 13608	4,7R 5% 0603 0,0016W
3307	4822 051 30109	10Ω 5% 0.062W
3308	4822 117 10837	100kΩ 1% 0.1W
3310	4822 051 10102	1kΩ 2% 0.25W
3311	4822 051 30569	56R00 5% 0,062W
3312	4822 051 30222	2.2kΩ 5% 0.062W
3316	4822 117 10837	100kΩ 1% 0.1W
3318	4822 051 30008	Jumper 0603
3318	4822 051 30109	10Ω 5% 0.062W
3319	4822 117 12968	820Ω 5% 0.62W
3323	4822 050 24708	4Ω7 1% 0.6W
3329	4822 050 24708	4Ω7 1% 0.6W
3334	4822 050 11002	1k 1% 0.4W
3335	4822 051 30102	1kΩ 5% 0.062W
3335	4822 051 30471	470Ω 5% 0.062W
3335	4822 117 12968	820Ω 5% 0.62W
3336	4822 051 30102	1kΩ 5% 0.062W
3336	4822 051 30471	470Ω 5% 0.062W
3336	4822 117 12968	820Ω 5% 0.62W
3337	4822 051 30221	220Ω 5% 0.062W
3337	4822 117 12968	820Ω 5% 0.62W
3338	3198 013 01020	1k 2% 0.5W
3338	3198 013 04710	470Ω 20% 0.5W
3339	3198 013 01020	1k 2% 0.5W
3339	3198 013 04710	470Ω 20% 0.5W
3340	3198 013 01020	1k 2% 0.5W
3340	3198 013 04710	470Ω 20% 0.5W
3341	4822 052 10151	150Ω 5% 0.33W
3341	4822 052 11479	47Ω 5% 0.5W
3342	4822 116 83883	470Ω 5% 0.5W
3345	4822 116 52191	33Ω 5% 0.5W
3347	3198 013 01520	1k5 2% 0.5W
3348	4822 117 13016	VDR 1mA/50V
3349	3198 013 01020	1k 2% 0.5W
3350	4822 116 52175	100Ω 5% 0.5W
3350	4822 116 83883	470Ω 5% 0.5W
3351	4822 116 52175	100Ω 5% 0.5W
3351	4822 116 83883	470Ω 5% 0.5W
3352	4822 116 52175	100Ω 5% 0.5W
3352	4822 116 83883	470Ω 5% 0.5W
3354	4822 051 30222	2.2kΩ 5% 0.062W
3355	4822 117 13608	4,7R 5% 0603 0,0016W
3356	4822 051 10102	1kΩ 2% 0.25W
3357	4822 117 13608	4,7R 5% 0603 0,0016W
3358	4822 051 30103	10kΩ 5% 0.062W
3359	4822 051 30103	10kΩ 5% 0.062W
3360	4822 051 30103	10kΩ 5% 0.062W
3370	4822 117 13016	VDR 1mA/50V
3401	4822 053 11101	100Ω 5% 2W
3401	4822 116 52175	100Ω 5% 0.5W
3402	4822 116 52176	10Ω 5% 0.5W
3403	4822 052 10108	1Ω 5% 0.33W
3403	4822 052 11108	1Ω 5% 0.5W
3404	4822 052 10108	1Ω 5% 0.33W
3405	4822 116 52193	39Ω 5% 0.5W
3410	4822 051 30471	470Ω 5% 0.062W
3410	4822 117 13632	100kΩ 1% 0603 0.62W
3411	4822 117 11148	56kΩ 1% 0.1W
3411	4822 117 13632	100kΩ 1% 0603 0.62W
3412	2322 750 61509	Fuse 15Ω 1206 5%
3412	4822 117 11148	56kΩ 1% 0.1W
3413	4822 051 30471	470Ω 5% 0.062W
3413	4822 051 30681	680Ω 5% 0.062W
3414	4822 051 30109	10Ω 5% 0.062W
3416	4822 051 20333	33kΩ 5% 0.1W
3416	4822 116 52193	39Ω 5% 0.5W
3417	4822 051 20333	33kΩ 5% 0.1W
3417	4822 051 30109	10Ω 5% 0.062W
3418	4822 051 30008	Jumper 0603
3419	4822 053 12272	2.7kΩ 5% 3W
3420	2322 702 60688	6R8 5% 0.062W RC21 0603
3420	4822 051 30109	10Ω 5% 0.062W
3421	4822 051 20333	33kΩ 5% 0.1W
3422	4822 051 30008	Jumper 0603
3422	4822 051 30152	1.5kΩ 5% 0.062W
3422	4822 051 30392	3.9kΩ 5% 0.063W 0603
3423	4822 051 20333	33kΩ 5% 0.1W
3424	4822 051 20333	33kΩ 5% 0.1W
3425	4822 051 30152	1.5kΩ 5% 0.062W
3425	4822 051 30392	3.9kΩ 5% 0.063W 0603
3426	4822 051 20333	33kΩ 5% 0.1W
3427	2322 702 60688	6R8 5% 0.062W RC21 0603
3427	4822 051 30109	10Ω 5% 0.062W
3448	4822 051 20333	33kΩ 5% 0.1W
3449	4822 117 11817	1.2kΩ 1% 1/16W
3451	4822 051 30102	1kΩ 5% 0.062W
3453	4822 051 30103	10kΩ 5% 0.062W
3454	4822 051 20333	33kΩ 5% 0.1W
3456	4822 051 30332	3.3kΩ 5% 0.062W
3458	4822 117 12139	22Ω 5% 0.062W
3459	4822 051 30101	100Ω 5% 0.062W
3460	4822 117 12139	22Ω 5% 0.062W
3465	4822 051 30008	Jumper 0603
3471	4822 117 11817	1.2kΩ 1% 1/16W
3473	4822 116 80176	1Ω 5% 0.5W
3474	4822 051 30103	10kΩ 5% 0.062W
3478	4822 116 80176	1Ω 5% 0.5W
3488	4822 051 30008	Jumper 0603
3489	4822 051 30109	10Ω 5% 0.062W
3492	4822 051 30008	Jumper 0603
3501	4822 051 20471	470Ω 5% 0.1W
3502	4822 051 30331	330Ω 5% 0.062W
3506	4822 051 30008	Jumper 0603
3508	4822 051 30008	Jumper 0603
3509	4822 051 30471	470Ω 5% 0.062W
3510	4822 116 52175	100Ω 5% 0.5W
3511	4822 051 20471	470Ω 5% 0.1W
3512	4822 051 30331	330Ω 5% 0.062W
3516	4822 117 13632	100kΩ 1% 0603 0.62W
3517	4822 051 30102	1kΩ 5% 0.062W
3518	4822 051 30008	Jumper 0603
3519	4822 051 30471	470Ω 5% 0.062W
3520	4822 116 52226	560Ω 5% 0.5W
3521	4822 051 20471	470Ω 5% 0.1W
3522	4822 051 30331	330Ω 5% 0.062W
3526	4822 051 30008	Jumper 0603
3528	4822 051 30008	Jumper 0603
3529	4822 051 30471	470Ω 5% 0.062W
3530	4822 116 52226	560Ω 5% 0.5W
3532	4822 051 30008	Jumper 0603
3534	4822 051 30008	Jumper 0603
3535	4822 051 20008	Jumper 0805
3536	4822 051 20008	Jumper 0805
3537	4822 051 20008	Jumper 0805
3539	4822 051 20471	470Ω 5% 0.1W
3541	4822 051 20471	470Ω 5% 0.1W
3543	4822 051 20471	470Ω 5% 0.1W
3544	4822 116 52285	470kΩ 5% 0.5W
3545	4822 051 30109	10Ω 5% 0.062W
3546	4822 051 30109	10Ω 5% 0.062W
3547	4822 051 30109	10Ω 5% 0.062W
3999	4822 051 30392	3.9kΩ 5% 0.063W 0603
3999	4822 051 30472	4.7kΩ 5% 0.062W
3999	4822 051 30562	5.6kΩ 5% 0.063W 0603
3999	4822 051 30682	6.8kΩ 5% 0.062W
3999	4822 117 12902	8.2kΩ 1% 0.063W 0603
9301	4822 051 30008	Jumper 0603
9303	4822 051 30008	Jumper 0603
9305	4822 051 30008	Jumper 0603
9306	4822 051 30008	Jumper 0603
9308	4822 051 30008	Jumper 0603
9314	4822 051 30008	Jumper 0603
9402	2238 930 11523	10pF 5% 200V 0805
9402	4822 051 30008	Jumper 0603
9403	2238 930 11523	10pF 5% 200V 0805
9403	4822 051 30008	Jumper 0603
9404	4822 051 30008	Jumper 0603
9406	4822 051 20008	Jumper 0805
9408	4822 051 30008	Jumper 0603
9409	4822 051 30008	Jumper 0603
9413	4822 051 20008	Jumper 0805
9428	4822 051 30008	Jumper 0603
9432	4822 051 30008	Jumper 0603

9437	4822 051 30008	Jumper 0603
9450	4822 051 20008	Jumper 0805
9452	4822 051 20008	Jumper 0805
9453	4822 051 20008	Jumper 0805
9501	4822 051 30008	Jumper 0603
9502	4822 051 30008	Jumper 0603
9503	4822 051 30008	Jumper 0603

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5300⚠	3104 308 20571	Transformer S13974-03 34'
5304	4822 526 10704	Bead 45Ω at 50MHz
5305	2422 549 42896	Bead 120Ω at 100MHz
5308	4822 157 11867	5.6µH 5%
5309	4822 157 11867	5.6µH 5%
5310	4822 157 50964	100µH 20%
5400	4822 157 11869	33µH 10% LHL08
5400	4822 157 71467	39µH 10%
5500	2722 122 00337	Del. Line 70NS SDL-5135
5501	2722 122 00337	Del. Line 70NS SDL-5135
5502	2722 122 00337	Del. Line 70NS SDL-5135

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6300	4822 130 83757	BAS216
6301	4822 051 20479	47Ω 5% 0.1W
6301	9340 553 52115	BAS321
6302	9340 553 52115	BAS321
6303	9340 553 52115	BAS321
6305	9340 553 52115	BAS321
6306	9340 553 52115	BAS321
6307	9340 553 52115	BAS321
6310	4822 130 11397	BAS316
6401	3139 120 52021	BYV29X-500
6401	4822 130 11397	BAS316
6402	4822 130 11397	BAS316
6403	4822 130 11397	BAS316
6404	4822 130 11397	BAS316
6405	3139 120 52021	BYV29X-500
6407	4822 130 11397	BAS316
6420	5322 130 34337	BAV99
6421	5322 130 34337	BAV99
6422	5322 130 34337	BAV99
6426	4822 130 30613	BAW62
6427	4822 130 30613	BAW62
6428	4822 130 30613	BAW62
6430	9340 548 61115	PDZ12B
6431	4822 130 11397	BAS316
6432	9340 553 52115	BAS321
6500	4822 130 11397	BAS316
6501	4822 130 11397	BAS316
6502	4822 130 11397	BAS316

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7300	5322 130 42718	BFS20
7301	5322 130 42718	BFS20
7302	5322 130 62804	BCP53
7303	5322 130 63033	BCP56
7304	4822 130 60383	BF824
7307	9352 561 40112	TDA6108
7308	5322 130 42718	BFS20
7309	5322 130 62804	BCP53
7310	5322 130 63033	BCP56
7330	9352 694 46112	TDA6118JF/N1
7340	9352 694 46112	TDA6118JF/N1
7350	9352 694 46112	TDA6118JF/N1
7414	5322 130 62804	BCP53
7415	5322 130 63033	BCP56
7422	5322 130 42718	BFS20
7427	5322 130 60159	BC846B
7428	4822 130 60373	BC856B
7429	5322 130 63033	BCP56
7430	5322 130 62804	BCP53
7500	5322 130 42718	BFS20
7502	4822 130 60373	BC856B
7503	5322 130 42718	BFS20
7505	4822 130 60373	BC856B
7506	5322 130 42718	BFS20
7508	4822 130 60373	BC856B

DC Shift Panel [G]

Various

0317	4822 265 20723	Connector 2p m
0318	4822 265 20723	Connector 2p m
1430	2422 086 10581	Fuse 400mA 65V
8317	3104 311 01421	Cable 2p3/220/2p3

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2430	4822 122 31177	470pF 10% 500V
2431	4822 122 31177	470pF 10% 500V

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5430	3128 138 38911	DC-shift coil CU15

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6432	9340 317 00133	BYD33V
6433	9340 317 00133	BYD33V

I/O 3rd SCART Panel [H]

Various

0043	3104 304 21311	Coverplate SCART
1201	2422 025 12493	Connector 10P m h 2.50
1272	2422 025 16601	3p male
1339	4822 265 10838	Socket phono 1P f v 3.5mm
1402	4822 267 10596	Connector 5P
1680	4822 265 31067	Connector 7p m
1937	2422 025 12493	Connector 10P m h 2.50
1952	4822 267 10748	Connector 3p m
1992	2422 025 16725	Connector SCART f m Bk
8201	3104 301 09841	Cable 10P/340/10P Wh
8272	3104 311 03101	Cable 3P/560/3P Bk
8340	3104 311 03101	Cable 3P/560/3P Bk

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2500	2020 552 95344	680nF 20-80% 16V 0805
2502	4822 126 14585	100nF 10% 50V
2503	3198 016 31020	1nF 25V 0603
2504	2020 552 94427	100pF 5% 50v 0603
2508	2020 552 95344	680nF 20-80% 16V 0805
2509	2020 552 94427	100pF 5% 50v 0603
2510	3198 017 41050	1µF 10V 0603
2511	2238 586 59812	100nF 20-80% 50V 0603
2513	4822 126 13883	220pF 5% 50V
2514	4822 126 14585	100nF 10% 50V
2516	2238 586 59812	100nF 20-80% 50V 0603

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3500	4822 117 13574	1.5Ω 5% 1206
3501	4822 051 30102	1kΩ 5% 0.062W
3502	4822 051 30008	Jumper 0603
3507	4822 051 30102	1kΩ 5% 0.062W
3508	4822 051 30008	Jumper 0603
3512	4822 051 30008	Jumper 0603
3512	4822 051 30101	100Ω 5% 0.062W
3517	4822 051 30151	150Ω 5% 0.062W
3518	4822 051 30151	150Ω 5% 0.062W
3520	4822 051 30101	100Ω 5% 0.062W
3521	4822 051 30101	100Ω 5% 0.062W
3526	4822 051 30101	100Ω 5% 0.062W
3529	4822 051 30333	33kΩ 5% 0.062W
3530	4822 051 30102	1kΩ 5% 0.062W
3531	4822 051 30471	470Ω 5% 0.062W
3532	4822 051 30102	1kΩ 5% 0.062W
3532	4822 051 30479	47Ω 5% 0.062W
3533	4822 051 30759	75Ω 5% 0.062W
3534	4822 117 12864	82kΩ 5% 0.6W
3535	4822 051 30102	1kΩ 5% 0.062W
3535	4822 051 30471	470Ω 5% 0.062W
3538	4822 051 30008	Jumper 0603
3540	4822 051 30008	Jumper 0603
3542	4822 051 30008	Jumper 0603
3544	4822 051 30008	Jumper 0603
3546	4822 051 30102	1kΩ 5% 0.062W
3999	4822 051 30222	2.2kΩ 5% 0.062W
3999	4822 051 30272	2.7kΩ 5% 0.062W
9503	4822 051 30008	Jumper 0603
9505	4822 051 20008	Jumper 0805
9507	4822 051 30008	Jumper 0603
9508	4822 051 30008	Jumper 0603
9509	4822 051 30008	Jumper 0603
9510	4822 051 30008	Jumper 0603
9514	4822 051 30008	Jumper 0603
9515	4822 051 30008	Jumper 0603
9516	4822 051 30008	Jumper 0603
9519	4822 051 30008	Jumper 0603
9520	4822 051 30008	Jumper 0603
9521	4822 051 30008	Jumper 0603
9523	4822 051 30008	Jumper 0603
9525	4822 051 30008	Jumper 0603
9526	4822 051 30008	Jumper 0603
9527	4822 051 30008	Jumper 0603
9528	4822 051 30008	Jumper 0603
9529	4822 051 30008	Jumper 0603
9537	4822 051 20008	Jumper 0805
9540	4822 051 30008	Jumper 0603

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6500	4822 130 11416	PDZ6.8B
6501	4822 130 11416	PDZ6.8B
6502	4822 130 11416	PDZ6.8B
6503	4822 130 11416	PDZ6.8B
6504	4822 130 11416	PDZ6.8B
6505	4822 130 11416	PDZ6.8B
6506	4822 130 11416	PDZ6.8B
6507	9340 548 61115	PDZ12B
6509	4822 130 11416	PDZ6.8B
6510	4822 130 11416	PDZ6.8B
6511	4822 130 11416	PDZ6.8B
6512	4822 130 11416	PDZ6.8B

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7501	5322 209 11578	PCF8574T
7508	5322 130 60159	BC846B
7509	4822 130 60373	BC856B
7515	9351 869 40118	74HC4053PW

Horizontal DAF Panel [I]

Various

0034	3104 304 23041	DAF bracket EMGS
1417	4822 265 20723	Connector 2p m
1418	2422 025 16374	Connector 2p m
1419	4822 265 20723	Connector 2p m
1491	3104 311 02452	Cable 1P/340/1P
1492	4822 267 10735	Connector 3p m
1497	4822 267 10973	Connector 1P m
1693	4822 267 10676	Connector 1P
8418	3104 311 01951	CableH 2P3/560mm/2P4

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2800	2222 375 90188	390pF 5% 2kV
2800	2222 375 90498	470pF 5% 2kV
2809	4822 124 40207	100µF 20% 25V
2812	4822 121 70435	10nF 5% 2kV
2813	4822 124 40248	10µF 20% 63V
2814	4822 121 70594	1nF 5% 2kV
2821	2222 479 90166	68nF 5% 400V
2822	4822 121 43856	4.7nF 5% 250V
2824	4822 124 40248	10µF 20% 63V
2825	4822 121 51319	1µF 10% 63V
2890	2222 375 90188	390pF 5% 2kV
2890	2222 375 90276	220pF 5% 2kV

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3807	4822 052 10159	15Ω 5% 0.33W
3808	4822 052 10159	15Ω 5% 0.33W
3809	4822 052 10109	10Ω 5% 0.33W
3810	4822 053 21474	470k 5% 0.5W
3811	4822 053 20475	4M7 5% 0.25W
3812	4822 116 52264	27kΩ 5% 0.5W
3813	4822 116 52285	470kΩ 5% 0.5W
3814	4822 050 21004	100kΩ 1% 0.6W
3815	4822 050 11002	1k 1% 0.4W
3816	4822 116 52256	2k2 5% 0.5W
3818	4822 051 20333	33kΩ 5% 0.1W
3820	4822 051 20008	Jumper 0805
3821	4822 051 20008	Jumper 0805
3822	4822 051 20008	Jumper 0805
3823	4822 117 11139	1.5kΩ 1% 0.1W
3824	4822 051 20333	33kΩ 5% 0.1W
3826	4822 051 20332	3.3kΩ 5% 0.1W
3827	4822 051 20562	5.6kΩ 5% 0.1W 0805
3828	4822 117 10837	100kΩ 1% 0.1W
3830	4822 117 10834	47kΩ 1% 0.1W
3831	4822 051 20472	4.7kΩ 5% 0.1W
3832	4822 051 20182	1.8kΩ 5% 0.1W
3833	4822 051 20472	4.7kΩ 5% 0.1W
3898	4822 116 21211	VDR 420V
3898	4822 116 21239	VDR 1mA/612V
3899	4822 116 21211	VDR 420V
3899	4822 116 21239	VDR 1mA/612V
3998	4822 050 11002	1k 1% 0.4W
3998	4822 116 52207	1k2 5% 0.5W

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5800	2422 531 02437	Transformer S21975-03
5801	2422 531 02435	Transformer C948-02
5801	8228 001 34391	Driver Transformer CU15
5810	3128 138 40041	Transformer CU15B

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6810	9340 317 00133	BYD33V
6812	4822 130 34441	BZX79-B22

7810	9322 136 03687	STP3NB80FP
7818	5322 130 60159	BC846B
7822	5322 130 60159	BC846B
7823	4822 130 60373	BC856B

Side I/O Panel [O]

Various

0077	3104 304 23481	Bracket side I/O FL11
0240	2422 025 12485	Connector 11p m
0306	3139 124 31651	Side I/O Bracket PV2
1016	3104 328 17361	SIDE I/O EMGS FL11 HD
1254	4822 267 31014	Socket headphone
1255	4822 265 11606	3p
1256	2422 026 04926	Socket 4P
1326	4822 267 10975	Connector 3p
1327	4822 267 31014	Socket headphone
1328	2422 026 05133	Connector SVHS 4p f
1936	2422 025 12485	Connector 11p m
8936	3104 311 05271	Cable 11P/820/11P UL

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2286	4822 122 33642	150pF 5% 50V
2288	4822 122 33642	150pF 5% 50V
2292	5322 122 32311	470pF 10% 100V
2294	5322 122 32311	470pF 10% 100V
2296	4822 122 31125	4.7nF 20% 63V
2297	4822 122 31125	4.7nF 20% 63V
2803	5322 126 10733	680pF 5% 50V
2804	5322 122 32531	100pF 5% 50V
2805	5322 122 32531	100pF 5% 50V
2806	5322 126 10733	680pF 5% 50V
2807	4822 126 14076	220nF 25V. 20%
2813	4822 124 22652	2.2µF 20% 50V
2832	4822 122 33177	10nF 20% 50V
2832	5322 122 31863	330pF 5% 63V
2834	4822 122 33177	10nF 20% 50V
2834	5322 122 31863	330pF 5% 63V
2840	4822 122 33177	10nF 20% 50V
2840	5322 126 10733	680pF 5% 50V
2841	4822 122 33177	10nF 20% 50V
2841	5322 126 10733	680pF 5% 50V

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3285	4822 116 52201	75Ω 5% 0.5W
3286	4822 116 52176	10Ω 5% 0.5W
3287	4822 116 52201	75Ω 5% 0.5W
3288	4822 116 52176	10Ω 5% 0.5W
3291	4822 050 11002	1k 1% 0.4W
3292	4822 117 10834	47kΩ 1% 0.1W
3293	4822 050 11002	1k 1% 0.4W
3294	4822 117 10834	47kΩ 1% 0.1W
3295	4822 116 52175	100Ω 5% 0.5W
3296	4822 117 10833	10kΩ 1% 0.1W
3297	4822 117 10833	10kΩ 1% 0.1W
3801	4822 117 11927	75Ω 1% 0.1W
3802	4822 116 52201	75Ω 5% 0.5W
3803	4822 050 11002	1k 1% 0.4W
3804	4822 050 11002	1k 1% 0.4W
3808	4822 051 20008	Jumper 0805
3809	4822 051 20008	Jumper 0805
3814	4822 117 10833	10kΩ 1% 0.1W
3816	4822 051 20008	Jumper 0805
3826	4822 116 52199	68Ω 5% 0.5W
3826	4822 116 52206	120Ω 5% 0.5W
3827	4822 116 52199	68Ω 5% 0.5W
3827	4822 116 52206	120Ω 5% 0.5W
3828	4822 116 52199	68Ω 5% 0.5W
3828	4822 116 52206	120Ω 5% 0.5W
3829	4822 116 52199	68Ω 5% 0.5W
3829	4822 116 52206	120Ω 5% 0.5W
3830	4822 050 21003	10kΩ 1% 0.6W
3835	4822 116 52175	100Ω 5% 0.5W
3842	4822 050 21003	10kΩ 1% 0.6W
4201	4822 051 20008	Jumper 0805
4241	4822 051 20008	Jumper 0805
4243	4822 051 20008	Jumper 0805
4800	4822 051 20008	Jumper 0805
4801	4822 051 20008	Jumper 0805
4802	4822 051 20008	Jumper 0805
4803	4822 051 20008	Jumper 0805

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6291	9340 548 61115	PDZ12B
6292	9340 548 61115	PDZ12B
6293	9340 548 61115	PDZ12B
6294	9340 548 61115	PDZ12B
6296	9340 548 61115	PDZ12B
6297	9340 548 61115	PDZ12B
6801	9322 129 38685	BZM55-C6V8
6802	9322 129 38685	BZM55-C6V8
6803	9322 129 40685	BZM55-C10
6804	9322 129 40685	BZM55-C10
6805	9322 129 40685	BZM55-C10
6806	9322 129 40685	BZM55-C10
6807	9322 129 38685	BZM55-C6V8
6808	9322 129 38685	BZM55-C6V8

Top Control Panel [P]

Various

0055	3104 307 98241	Top control keypad FL11
0056	3104 307 97611	Top control FL11
0057	3104 304 23431	Topcontrol bottom FL11
0135	3104 311 01401	Cable 3p/1500/3p
0215	4822 267 10748	Connector 3p m
0342	3139 124 39172	Top control bracket
0346	4822 267 10748	Connector 3p m
1091	4822 276 13775	Switch
1092	4822 276 13775	Switch
1093	4822 276 13775	Switch
1094	4822 276 13775	Switch
1095	4822 276 13775	Switch
1701	2422 128 02778	Tact switch
1702	2422 128 02778	Tact switch
1703	2422 128 02778	Tact switch
1704	2422 128 02778	Tact switch
1705	2422 128 02778	Tact switch
8346	3104 301 07771	Cable 3P 1200mm white
8346	3104 311 01401	Cable 3p/1500/3p

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2010	4822 122 33177	10nF 20% 50V

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3001	4822 051 20391	390Ω 5% 0.1W
3003	4822 117 13528	200Ω 1% 0.125W 0805
3005	4822 117 11951	2kΩ 1% 0.1W
3009	4822 117 11534	1.1kΩ 1% 0.1W
3011	4822 117 10845	620Ω 1% 0.1W
3088	4822 117 11951	2kΩ 1% 0.1W
3089	4822 117 11534	1.1kΩ 1% 0.1W
3090	4822 117 10845	620Ω 1% 0.1W
3091	4822 051 30008	Jumper 0603
3092	4822 051 30008	Jumper 0603
3093	4822 051 30008	Jumper 0603
3094	4822 051 30008	Jumper 0603
3095	4822 051 30391	390Ω 5% 0.062W
3096	4822 117 13528	200Ω 1% 0.125W 0805
3999	4822 051 20471	470Ω 5% 0.1W
4001	4822 051 20008	Jumper 0805
4003	4822 051 20008	Jumper 0805
4005	4822 051 20008	Jumper 0805
4006	4822 051 20008	Jumper 0805

Auto Scavem [SC]

Various

1440	2422 025 12485	Connector 11p m
1940	2422 025 12485	Connector 11p m
1955	4822 267 10735	Connector 3p m
8440	3104 311 05882	Cable 11P/400/11P ferr.

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2000	4822 126 14223	2.2pF +-0.25pF 50V 0603
2002	4822 126 13887	4.7pF 50V
2003	4822 126 13887	4.7pF 50V
2004	3198 016 31080	1pF 25% 50V 0603
2006	2238 586 59812	100nF 20-80% 50V 0603
2008	2238 916 15641	22nF 10% 25V 0603
2010	2238 586 59812	100nF 20-80% 50V 0603
2012	2238 916 15641	22nF 10% 25V 0603
2014	2238 916 15641	22nF 10% 25V 0603
2016	4822 122 33741	10pF 10% 50V
2020	2238 916 15641	22nF 10% 25V 0603
2038	2238 916 15641	22nF 10% 25V 0603
2040	4822 126 14225	56pF 5% 50V 0603
2041	5322 122 32163	5,6PF0,25PF 100V
2208	4822 124 41584	100µF 20% 10V
2600	4822 124 80791	470µF 20% 16V
2602	5322 122 32654	22nF 10% 63V
2605	3198 017 41050	1µF 10V 0603
2607	5322 122 32654	22nF 10% 63V

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3000	4822 051 30101	100Ω 5% 0.062W
3002	4822 051 30101	100Ω 5% 0.062W
3004	4822 051 30101	100Ω 5% 0.062W
3006	4822 051 30102	1kΩ 5% 0.062W
3008	4822 051 30102	1kΩ 5% 0.062W
3010	4822 051 30102	1kΩ 5% 0.062W
3012	4822 051 30332	3.3kΩ 5% 0.062W
3014	4822 117 12903	1.8kΩ 1% 0.063W 0603
3016	4822 117 12902	8.2kΩ 1% 0.063W 0603
3018	4822 051 30681	680Ω 5% 0.062W
3020	4822 051 30471	470Ω 5% 0.062W
3022	4822 051 30393	39kΩ 5% 0.062W
3024	4822 051 30273	27kΩ 5% 0.062W
3028	4822 051 30223	22kΩ 5% 0.062W
3030	4822 051 30683	68kΩ 5% 0.062W
3032	4822 117 12903	1.8kΩ 1% 0.063W 0603
3034	4822 051 30222	2.2kΩ 5% 0.062W
3036	4822 051 30332	3.3kΩ 5% 0.062W
3038	4822 051 30561	560Ω 5% 0.062W
3040	4822 117 12925	47kΩ 1% 0.063W 0603
3042	4822 051 30682	6.8kΩ 5% 0.062W
3044	4822 051 30102	1kΩ 5% 0.062W
3046	4822 051 30102	1kΩ 5% 0.062W
3048	4822 051 30102	1kΩ 5% 0.062W
3050	4822 051 30561	560Ω 5% 0.062W
3052	4822 051 30561	560Ω 5% 0.062W
3054	4822 051 30102	1kΩ 5% 0.062W
3056	4822 051 30102	1kΩ 5% 0.062W
3058	4822 051 30471	470Ω 5% 0.062W
3060	4822 051 30471	470Ω 5% 0.062W
3062	4822 051 30222	2.2kΩ 5% 0.062W
3064	4822 117 12971	15Ω 5% 0.62W 0603
3066	4822 117 12902	8.2kΩ 1% 0.063W 0603
3068	4822 051 30681	680Ω 5% 0.062W
3070	4822 117 12902	8.2kΩ 1% 0.063W 0603
3072	4822 051 30152	1.5kΩ 5% 0.062W
3074	4822 051 30101	100Ω 5% 0.062W
3076	4822 117 11817	1.2kΩ 1% 1/16W
3078	4822 051 30102	1kΩ 5% 0.062W
3093	4822 051 30152	1.5kΩ 5% 0.062W
3106	4822 051 30472	4.7kΩ 5% 0.062W
3108	4822 051 30273	27kΩ 5% 0.062W
3110	4822 051 30392	3.9kΩ 5% 0.063W 0603
3112	4822 051 30222	2.2kΩ 5% 0.062W
3114	4822 051 30101	100Ω 5% 0.062W
3116	4822 051 30102	1kΩ 5% 0.062W
3118	4822 051 30103	10kΩ 5% 0.062W
3120	4822 051 30103	10kΩ 5% 0.062W
3500	4822 051 30101	100Ω 5% 0.062W
3502	4822 051 30101	100Ω 5% 0.062W
3600	4822 117 13574	1.5Ω 5% 1206
3999	4822 051 30102	1kΩ 5% 0.062W
9000	4822 051 30008	Jumper 0603
9002	4822 051 30008	Jumper 0603
9010	4822 051 30008	Jumper 0603
9020	4822 051 30008	Jumper 0603
9033	4822 116 52175	100Ω 5% 0.5W
9045	4822 051 30008	Jumper 0603
9046	4822 051 30008	Jumper 0603
9047	4822 051 30008	Jumper 0603

-mm-

5600	4822 157 11867	5.6µH 5%
5601	4822 157 11867	5.6µH 5%

6000	5322 130 80119	BBY40

7000	4822 130 60373	BC856B
7002	4822 130 60373	BC856B
7004	4822 130 60373	BC856B
7006	5322 130 42718	BFS20
7008	4822 130 60373	BC856B
7010	5322 130 42718	BFS20
7012	5322 130 42718	BFS20
7014	4822 130 60383	BF824
7016	5322 130 42718	BFS20
7018	5322 130 42718	BFS20
7020	4822 130 60383	BF824
7022	5322 130 42718	BFS20
7024	5322 130 42718	BFS20
7026	5322 130 42718	BFS20
7040	5322 130 42718	BFS20
7042	4822 130 60383	BF824
7500	5322 209 90559	TDA8444T/N4

11. Revision List

First release